

April 2004

Permit Renewal and Vegetation Allocation Environmental Assessment

No. ID-097-2004-011



Submitted By:

DYNAMAC[®]
CORPORATION

4891 Independence Street
Suite 149
Wheat Ridge, CO 80033

Submitted To:



Bureau of Land Management
Jarbidge Field Office
2620 Kimberly Road
Twin Falls, ID 83301

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Bureau of Land Management

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Wheat Ridge, Colorado 80033

ENVIRONMENTAL ASSESSMENT

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LIST OF ACRONYMS

ACEC	Area of Critical Environmental Concern
AMP	Allotment Management Plan
ARPA	Archaeological Resources Protection Act
AUM	Animal Unit Month
BLM	Bureau of Land Management
CWA	Clean Water Act
CCA	Candidate Conservation Agreement
CFR	Code of Federal Regulations
CDC	Conservation Data Center
DEQ	Idaho Department of Environmental Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAR	Functioning-at-risk
FLPMA	Federal Land Policy and Management Act
GIS	Geographic Information Systems
ID	Interdisciplinary
JFO	Jarbridge Field Office
LWD	Large Woody Debris
IDFG	Idaho Department of Fish and Game
IMNH	Idaho Museum of Natural History
IMP	Interim Management Plan
MG	Management Guideline
MUA	Multiple Use Area
NAGPRA	Native American Graves Protection and Repatriation Act
NF	Nonfunctional
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NRHP	National Register of Historic Places
EO	Element Occurrence
OHV	Off-Highway Vehicle
ORMP	Owyhee Resource Management Plan
PFC	Proper Functioning Condition
PNC	Potential Natural Community
RAC	Resource Advisory Council
RES	Renewable Energy System
RHCA	Riparian Habitat Conservation Areas
ROD	Record of Decision
RMP	Resource Management Plan
S&G	Standards and Guidelines
SCR	Saylor Creek Range
SHPO	State Historic Preservation Officer
SRMA	Special Recreation Management Area
TNR	Temporary Non-renewable
T&E	Threatened or Endangered
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WSA	Wilderness Study Area
WSR	Wild and Scenic Rivers

Section 1.0 – Introduction

1.1 Overview of the Proposed Action

The proposed action is to issue new livestock grazing permits, allocate vegetation, and authorize appropriate grazing management for 18 allotments administered by the Jarbidge Field Office (JFO) of the Bureau of Land Management (BLM). The subject allotments are located in Owyhee and Twin Falls counties in southern Idaho (Figure 1.1). The proposed action would allocate vegetation for watershed, wildlife, livestock, and other purposes. The Allocation of Vegetation Formula used in developing the proposed action and alternatives is presented in Appendix A. A full description of the proposed action and alternatives is provided in Section 2.0 of this EA.

1.2 Purpose and Need for the Action

BLM normally issues grazing permits for a term of 10 years. The current permits for the 18 allotments are expiring and are scheduled for renewal. In accordance with the grazing regulations and the Jarbidge Resource Management Plan (RMP), BLM must consider changes in grazing management practices and allocation of forage as part of the grazing permit renewal process.

Large-scale projects in the 1960s and 1970s in certain portions of the study area have resulted in increased availability of forage for livestock grazing. These range projects replaced decadent stands of sagebrush and depleted understories with Crested Wheatgrass wheatgrass (*Agropyron cristatum*). Increased forage has also resulted from fire rehabilitation projects implemented to stabilize soils and stop or slow the proliferation of cheatgrass (*Bromus tectorum*).

The seedings have dramatically increased the amount of forage available for livestock use on a long-term, sustained basis. Permittees have been authorized to use part of the increased forage on a yearly basis as temporary nonrenewable (TNR) use. This forage has been available for the last 10 to 20 years. It is expected to continue to be available over the period of the new grazing permit (the next 10 years); therefore, it is now being considered for conversion from TNR to permitted use. The proposed action is needed to adequately allocate the increased forage.

As further discussed in Section 1.4, below, BLM has conducted allotment assessments in preparation for renewing the grazing permits for the 18 subject allotments. These allotment assessments indicate that certain conditions need to be improved in order to meet the applicable Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (S&Gs). The proposed action is designed to improve resource conditions and includes management guidelines (MGs) developed and selected to meet or make progress toward meeting the S&Gs.

1.3 Conformance with Applicable Resource Management Plan

The 1987 Jarbidge RMP Record of Decision is a land use plan that guides ongoing resource management in the Jarbidge Field Office (JFO) area. The RMP includes projections of potential livestock use levels that were expected to occur within 20 years after completion of the plan. Increased livestock use levels in the proposed action and alternatives are in conformance with the projected use levels in the RMP. In addition, RMP objectives and resource decisions were reviewed as part of the process of developing the proposed action and alternatives. Similar to how the S&Gs were addressed, the MGs were developed to ensure that proposed management would be in conformance with the RMP. In Appendix A, Table A.2 lists the applicable RMP direction, and Table A.3 lists the MGs that would be applied to each allotment and pasture to address these objectives.

1.4 Relationship to Statutes, Regulations, and Other Plans

The proposed action would be in compliance with all applicable State and federal laws, regulations, and plans. For example, the proposed action is designed to be consistent with the National Environmental Policy Act (NEPA) of 1969. NEPA and its implementing regulations (40 CFR 1500-1508) require federal agencies to use a systematic interdisciplinary approach in planning and decisionmaking and to adequately consider the potential impacts of any federal action on the quality of the human environment.

The Federal Land Policy and Management Act (FLPMA) of 1976 requires BLM to "manage the public lands under the principles of multiple use and sustained yield, in accordance with the land use plans..." FLPMA also requires that wilderness study areas (WSAs) be managed to prevent impairment of their suitability for designation as wilderness. Four of the allotments covered by this EA partially overlap two wilderness study areas WSAs. BLM's Interim Management Policy and Guidelines for Lands under Wilderness Review (BLM Manual Handbook H-8550-1) provides detailed guidance regarding WSA management.

The Clean Water Act (CWA) of 1972 has as a goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Several stream segments within the study area are currently listed on the Idaho Department of Environmental Quality (DEQ) 303(d) stream segment of concern list. The proposed action is consistent with the CWA and DEQ requirements.

In accordance with the Endangered Species Act (ESA) of 1973, a Biological Assessment on bull trout and the Bruneau hot springsnail will be completed in consultation with the U.S Fish and Wildlife Service (FWS) before a final decision is implemented on the proposed action. For other wildlife species, the State Fish and Game Management Plans have been considered in coordination with the Idaho Department of Fish and Game.

A Candidate Conservation Agreement for Slickspot Peppergrass (*Lepidium papilliferum*) was published on October 24, 2003. A copy of the CCA (BLM et al, 2003) is available in the JFO. The CCA was developed cooperatively by the BLM, State of Idaho, the Idaho Army National Guard, and several private property owners who hold BLM grazing permits. Based on this CCA and other conservation plans, the FWS has withdrawn its proposal to list *Lepidium papilliferum* as an endangered species under the ESA. However, this plant remains on BLM's "sensitive species" list and will be given special consideration under the provisions of the CCA.

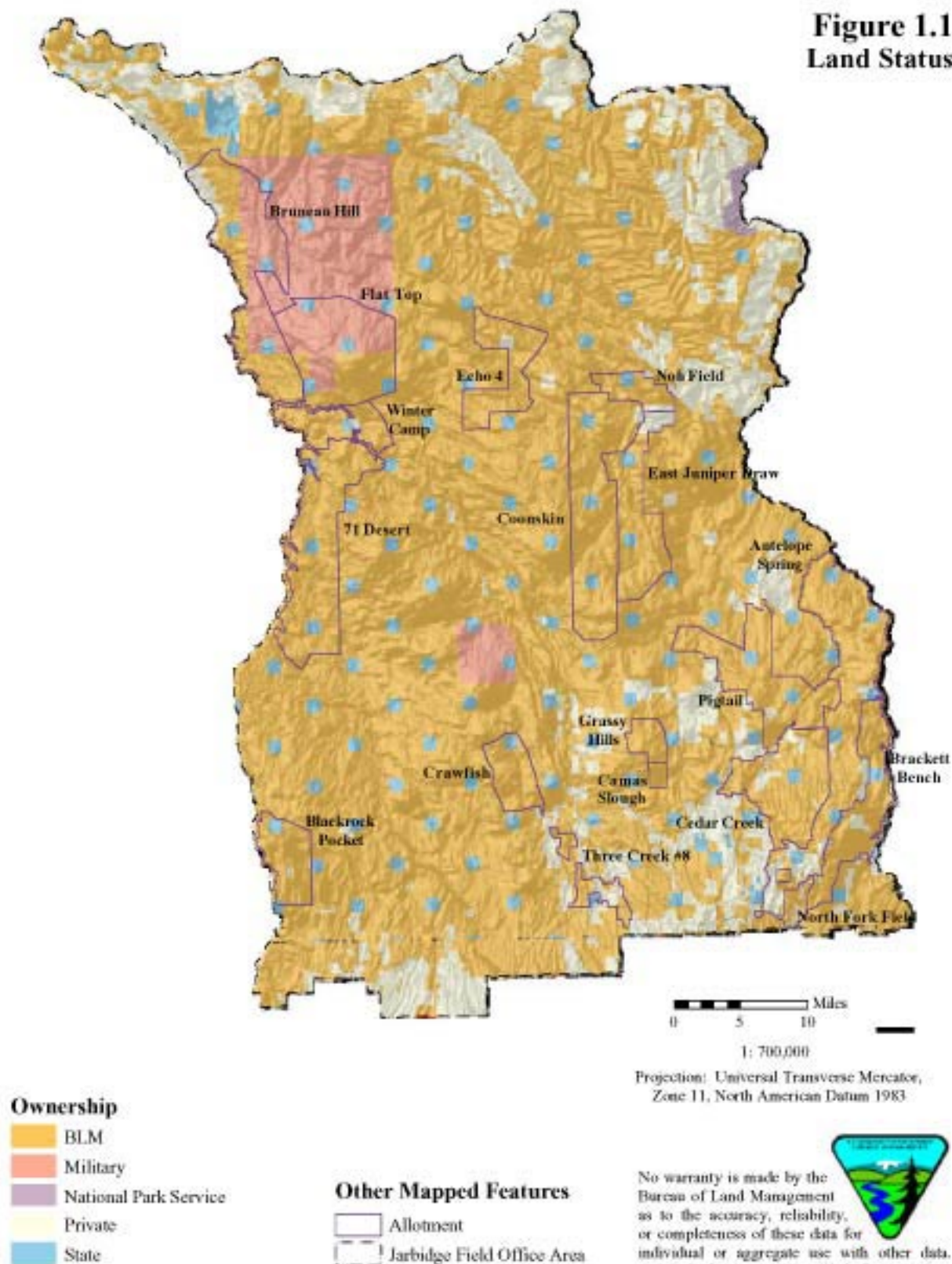
The National Historic Preservation Act of 1966 and other federal laws prohibit the destruction of cultural resources and require federal agencies to inventory, assess, protect, and manage cultural properties. BLM is conducting consultation on the proposed action with the Idaho State Historic Preservation Officer (SHPO), consistent with the National Programmatic Agreement and the implementing protocol agreement between Idaho BLM and the SHPO.

On August 12, 1997, the *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (Appendix A) were approved by the Secretary of the Interior. These Standards and Guidelines will also be referred to as "Standards" or "S&Gs" in this EA. The eight standards pertaining to rangeland health were delineated and defined collaboratively by the three BLM Resource Advisory Councils in the State of Idaho. BLM regulations (43 CFR 4180) require that these standards, where applicable, be used to evaluate grazing allotments prior to renewal of the 10-year term grazing permits. If current grazing management is not complying with the applicable standards, the new grazing permit must adjust practices to meet or make progress toward meeting the S&G requirements. S&G assessments were completed on all of the 18 allotments in 2003, and the proposed action is designed to meet the required standards. Table A.1 summarizes the results of the allotment assessments and identifies the MGs that were incorporated into the proposed action and alternatives to address the identified problems.

On file in the JFO, and summarized herein, is monitoring data which clearly demonstrates that a surplus of forage exists in many of the 18 allotments. In the past, a portion of this surplus forage has been authorized as TNR use under the provisions of 43 CFR 4130.6-2, Grazing Administration-Other Grazing Authorizations. The monitoring data demonstrates that the baseline level of available forage has increased since inventories of the early 1980s. Regulation 43 CFR 4110.3, Increasing Permitted Use, outlines the necessary steps for allocating excess forage. The proposed forage allocations would comply with this regulation.

As part of the process of preparing the Jarbidge RMP, a Proposed RMP and Final Environmental Impact Statement (EIS) was prepared and approved in 1987. This EIS, which is available to the public at the JFO, analyzed the potential social, economic, and environmental effects of livestock grazing management under the proposed RMP and five alternatives. The broad environmental impacts of the Jarbidge RMP, including the current and projected levels of livestock grazing, were analyzed in the EIS. The purpose of this EA is to evaluate the site-specific environmental impacts of achieving the RMP objectives, which were developed and analyzed in the land use planning and EIS processes. The detailed environmental analysis in this EA is tiered to the broader analysis in the EIS, as provided for by Section 1502.20 of the Council on Environmental Quality regulations.

Figure 1.1
Land Status



Section 2.0 - Description of Proposed Action and Alternatives

2.1 Alternative 1 (Proposed Action)

Introduction

Focusing on the maintenance and improvement of resource conditions and trends of the eighteen grazing allotments analyzed within this EA, the JFO interdisciplinary team has formulated a group of sixteen management guidelines (MGs). The 16 MGs are responsive to the spectrum of resource management objectives and requirements that apply to resource values resident in the eighteen allotments of the study area. The MGs are also designed to provide management direction in addressing conclusions reached in the Standards and Guides determinations (see Table A.1 of Appendix A) as well as, objectives set forth in the Jarbidge RMP (see Table A.2 of Appendix A).

The strategy and application of the management MGs are identical for all of the 4 alternatives. The MGs prescribed by the JFO interdisciplinary team has been assigned on a pasture specific basis for each allotment, and are displayed on Table A.3 of Appendix A. In addition to allotment specific objectives the MGs are also intended to be responsive to management concerns of specific species such as, sage grouse, bighorn sheep and bull trout as well as enhancing wildlife habitat in-general. The MGs also provide the blue print and parameters for the formulation of the “adaptive management” strategies for each allotment. The application of MGs is not intended and shall not preclude future consideration of range improvement or habitat restoration projects such as for sage grouse.

Alternative 1 would authorize livestock grazing operations under new permits and allocate vegetation production for watershed, wildlife, and livestock based on the application of a uniform formula. The new permits would be for 10 years (March 1, 2005 to February 28, 2015). The formula used to calculate vegetation allocation (Appendix A) is based on an assessment of rangeland health, vegetative production, climate, and resource values associated with the individual allotments.

A monitoring program consistent with guidance provided in BLM’s 1987 Jarbidge Resource Management Plan (RMP) has been applied in the formulation of the vegetation allocations. Guidance in the RMP provides that “the actual level of use that is authorized will be based on additional data collected

through monitoring and evaluation studies.” The levels of grazing use projected in the RMP are, in most cases, different than the levels proposed here. The RMP estimates were considered along with all other available data and current guidance when the allocation strategy used as the basis for the proposed action was developed.

The grazing management strategy used in the proposed action includes the application of management guidelines (MGs) tailored to meet the resource needs in allotments and individual pastures. The MGs are presented in Section 2.6. They were specifically developed to meet Idaho Standards and Guidelines (S&Gs) and to make progress toward RMP objectives, as described in Section 1.4. The MGs would be applied to individual allotments and pastures as shown in Tables A.1 and A.3 of Appendix A. This management strategy would also be used to:

1. Determine the amount of forage available in a pasture or allotment for the purposes of adjusting permitted use in subsequent years and
2. Calculate the amount of temporary non-renewable (TNR) use to be allowed on an annual basis in areas dominated by annual vegetation.

Season of Use

The season of use in this Alternative is from March 1 to February 28. Grazing use would not occur for the entire time, but rather would be set in the annual grazing authorizations. The flexibility in season of use would allow grazing management to be adjusted more readily in response to uncontrollable events such as drought, unusually wet periods, and wildfire. Each annual grazing license would be based on a grazing management plan prescribing livestock movements through all pastures and allotments on public lands.

Grazing Systems

Adaptive Grazing Management would be employed as the strategy to provide resource protection and flexibility for the permittee. It includes the development of an Annual Grazing Plan within the parameters of the Management Guidelines described in section 2.6 and adjusted within these parameters

based on monitoring and the needs of the watershed and wildlife. Adaptive grazing systems are proposed for most allotments, allowing flexibility to adjust the timing and rotation of use based on observed conditions. The number (head) and kind (cattle or sheep) of livestock, the total animal unit months (AUMs) of permitted use, and the type of grazing system proposed for each allotment are presented in Table A.3, Appendix A. Numbers of livestock would be allowed to vary, provided that total permitted AUMs of forage were not exceeded. The Management Guidelines may serve as triggers to redistribute livestock with a pasture or move them to another pasture. In addition to the permitted use, the proposed action would allow authorization of temporary nonrenewable (TNR) use only on an annual basis in areas dominated by **annual vegetation**. To provide additional perspective on the proposed level of permitted grazing use, it is compared in Table 2.1 to present permitted use, the RMP projected use, and the historic range of total authorized use for each allotment.

An example of adaptive Management is a pasture in an allotment contains active sage grouse leks. One lek is in the immediate area of a livestock watering trough. This pasture is scheduled to be grazed during the nesting season as it was rested the year before. The annual grazing plan identifies this situation and includes leaving this trough turned off during the nesting season to provide proper cover in the area near the lek. In addition to turning off the trough, The key areas for measuring utilization are established between .025 and 0.5 miles from water to provide greater cover in areas further away. Also salt would be placed at least 0.25 miles from sagebrush plant communities where these plant communities are adjacent to large areas with out sagebrush cover.

Range Improvement Projects

Alternative 1 would include the construction of a number of range improvement projects, including fences to protect sensitive areas, pipelines to watering troughs, and removal or relocation of troughs and pipelines (see Table 2.2, Project Summary, and Figure 2.1). The proposed projects were recommended by an interdisciplinary team to meet specific RMP objectives and the Idaho Standards for Rangeland Health for each allotment.

The pipelines would be constructed with at least 2-inch pipe buried at least 24 inches deep, where possible. Backfill would be mounded on top of the trench to protect from freezing during winter use. The disturbed area would be about 30 feet wide. Once construction is completed, it would be re-contoured and seeded with Siberian wheatgrass in areas of Crested Wheatgrass and Sandberg bluegrass and/or bluebunch wheatgrass in native vegetation areas.

Fences would be constructed in accordance with BLM standards with three or four strands of barbwire with the bottom strand barbed, depending on the expected pressure by livestock. The strands of a 3-wire fence would be at a height of 18, 30, and 40 inches above the ground. The height of 4-wire fence strands would be 18, 24, 30, and 42 inches. In-line braces, corner braces, and gate/end braces would be constructed with treated wood or steel pipe. There would be little ground disturbance other than for postholes and from over-country vehicular traffic. Vegetation affected by the construction would recover within two years. If deemed appropriate by the BLM authorized officer, disturbed areas could be re-contoured and seeded as previously described for pipelines.

Table 2.1 - Past, Present and Alternative 1 Proposed Authorized Grazing Use by Allotment

Name of Allotment	Present Permitted Use (AUMs)	RMP Recommended Grazing Use (AUMs)	Historic Range of TNR (AUMs)	Historic Range of Authorized Use (Permitted Use + TNR; AUMs)	Proposed Permitted Use (Alternative 1; AUMs)
71 Desert	2,981	4,925 ^a	0 – 2,111	2,952 – 5,092	3,652
Antelope Springs	6,046	AMP ^b	0 – 2,676	4,384 – 8,722	6,046
Blackrock Pocket	1,890	2,325	0 – 275	930 – 2,165	1,890
Brackett Bench	2,386	AMP ^b	0 – 846	806 – 3,232	2,386
Bruneau Hill	4,200	15,668 ^a	0 – 2,312	2,762 – 6,512	4,200
Camas Slough	180	231	0 – 221	0 – 401	253
Cedar Creek	4,233	4,058	0 – 3,311	3,281 – 7,544	4,443
Coonskin AMP	4,783	AMP ^b	0 – 1,798	2,793 – 6,551	5,468
Crawfish	650	2,439	0 – 417	602 – 1,067	650
East Juniper Draw	907	2,740	0 – 3,491	0 – 4,398	2,474
Echo 4	2,309	4364 ^a	0 – 3,328	730 – 5,629	3,740
Flat Top	3,248	12,726 ^a	0 – 2,710	2,248 – 5,958	5,761
Grassy Hill	658	1,866	0 – 1,210	0 – 1,868	858
Noh Field	528	947 ^a	0 – 951	408 – 1,479	1,073
North Fork Field	570	590	0 – 1,204	169 – 1,774	570
Pigtail Butte	3,959	5,966	0 – 2,585	1,731 – 6,544	5,532
Three Creek 8	797	927	0 – 70	725 – 867	797
Winter Camp	515	912 ^a	0 – 111	349 – 626	519

RMP = Resource Management Plan; TNR = Temporary Non-renewable

^a Allotments that were subdivided out of a larger common Allotment after the Jarbidge RMP was implemented. The RMP proposed allocation level is pro-rated from that proposed for the larger common allotment based on current permitted use (preference).

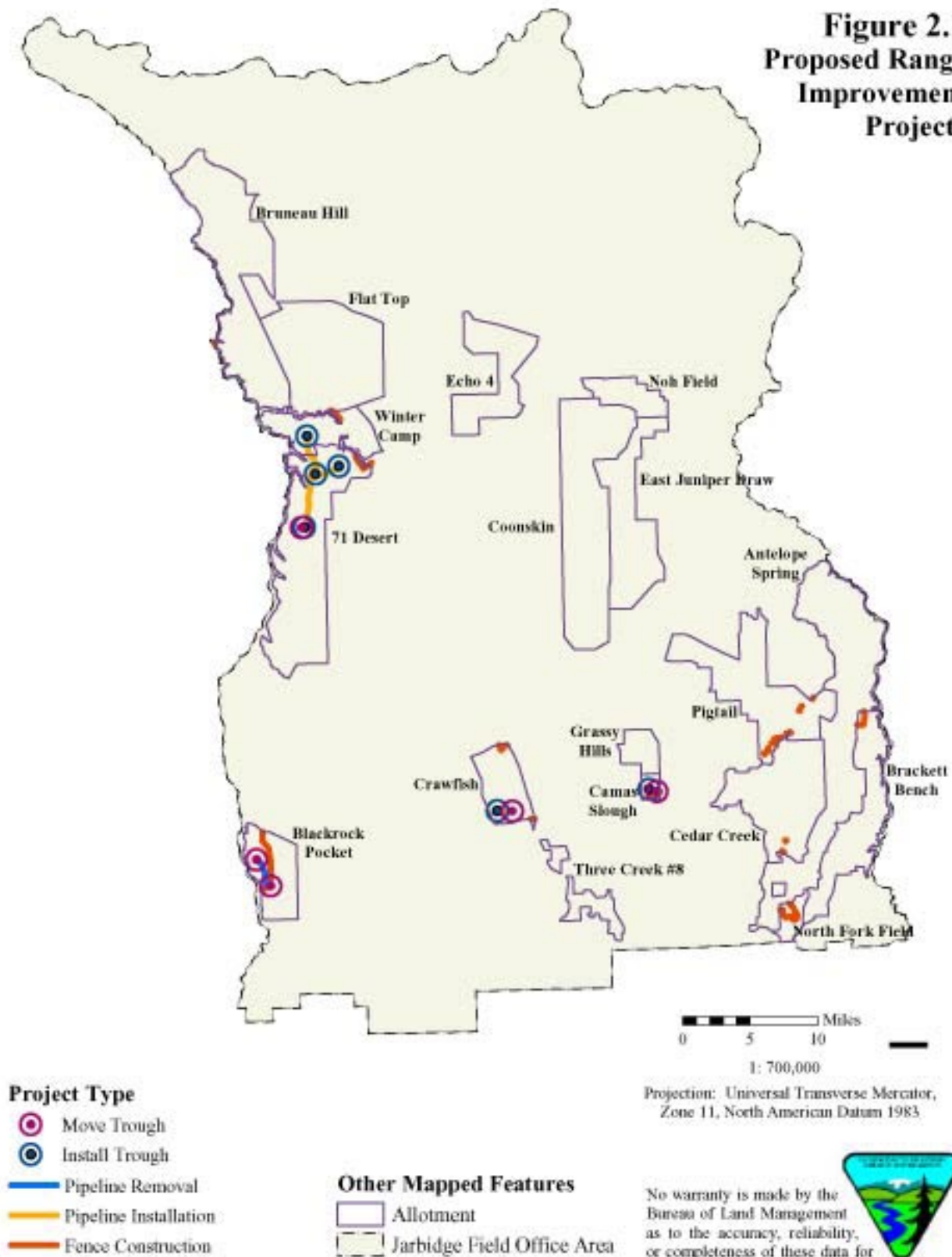
^b Specific RMP recommendations were not made for all allotments as they were under a grazing management system at the time of the RMP. The distribution of AUMs in these allotments was to be accomplished through further evaluation and environmental assessments.

Table 2.2 – Range Improvement Project Summary

Allotment Name	Project Description
71 Desert	<ul style="list-style-type: none"> -Extend AEC Pipeline to the north approximately 6 miles into the Lookout Pasture to provide water in a trough in the north end of Sheepshead Draw Pasture and a trough site in the Lookout Pasture. -Install 1.9 miles of 3-strand fence to control livestock grazing use of the Clover Creek riparian area on the east side of the Lookout Pasture. -Move trough in Sec. 24, T. 11 S., R. 7 E. one quarter mile to avoid livestock conflicts with Bighorn Sheep ACEC buffer area.
Blackrock Pocket	<ul style="list-style-type: none"> -Construct approximately 4.8 miles of 3-strand fence to limit livestock access to Blackrock Pocket (proper) area. This fence would allow area to be rested following vegetation treatments. -Remove trough and large storage tank from the Blackrock Pocket Pipeline (project #6255) since the trough is non-functional and is located within the one-mile buffer area of the ACEC.
Brackett Bench	<ul style="list-style-type: none"> -Construct about 1.5 miles of 3-strand fence around Antelope Springs Creek to create a riparian pasture in this area of Pasture 1 (the North Pasture).
Bruneau Hill	<ul style="list-style-type: none"> -Construct 0.2 miles of 4-strand barbwire, buck-and-pole, or other type of fence suitable to construct in the WSA to control cattle drift down the Roberson Trail into the Bruneau Canyon. Any vehicle traffic within the WSA would be confined to existing trails.
Camas Slough	<ul style="list-style-type: none"> -Expand the existing riparian enclosure with 0.6 miles of 4-strand barbwire fence to enclose the entire wetland/wet meadow area from livestock grazing. -Move the water trough (T.14S. R. 12 E., Sec. 32 NE4SE4) presently at the edge of the wet meadow at least 0.4 miles to the west.
Cedar Creek	<ul style="list-style-type: none"> -Enlarge the enclosure with 0.3 miles of 4-strand barbwire fence at the headwaters of Cedar Creek by expanding it to the east to protect significant cultural resources.* -Expand enclosure at Sage Hen Spring with 0.2 miles of 4-strand barbwire fence.
Crawfish	<ul style="list-style-type: none"> -Move the trough 1.1 miles to the east in the south central portion of the South Pasture. -Fence off water gap area in southeast end of South Pasture at Crawfish Crossing with 0.3 miles of 4-strand barbwire fence. -Fence wetland area in northeast corner of North Pasture to exclude livestock and improve wildlife habitat with 1.1 miles of 4-strand barbwire fence.
North Fork Field	<ul style="list-style-type: none"> -Construct 3.3 miles of 3-strand barbwire fence to segregate federal land riparian areas in Timber Canyon and Rocky Canyon from the remainder of the allotment and manage fenced area as a riparian pasture.
Pigtail Butte	<ul style="list-style-type: none"> -Construct a water gap and drift fences with 0.5 miles of 4-strand barbwire fence at Three Mile Crossing to exclude cattle from the majority of the Cedar Creek to improve the riparian area and to protect important cultural resources.* -Construct 1.8 miles of 3-strand barbwire fence on the rim of Cedar Creek Reservoir to limit livestock access to the reservoir.
Winter Camp	<ul style="list-style-type: none"> -Extend the AEC Pipeline 2.6 miles from the extension to the Lookout Pasture of the 71 Desert Allotment into the West Pasture and install one trough to provide a reliable source of water in the uplands away from Clover Creek. -Construct approximately 1.2 miles of 3-strand barbed-wire fence to control cattle access in the Bruneau River Sheep Creek WSA.

* Identifies projects that would be implemented in all Alternatives, including Alternative 4.

**Figure 2.1
Proposed Range
Improvement
Projects**



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Monitoring

The following represents the optimum level of monitoring to measure progress toward meeting the Standards for Rangeland Health and RMP objectives. The accomplishment of this level would be dependent on funding.

Nested-plot Frequency studies along with Photo Plots would continue to be read at 85 established key study sites currently located within the allotments in accordance with *Sampling Vegetation Attributes Interagency Technical Reference* (BLM, 1996). Additional sites would be established in the Crawfish, East Juniper Draw, Echo 4, Flat Top, Grassy Hills, Noh Field and Three Creek #8 allotments. Each of these studies would be read every five to ten years. The data would be baseline, for comparison to future readings to determine trend and changes in the plant communities.

Canopy cover data would be collected as part of the Nested-plot Frequency method. Vegetation cover may also be collected using a pace transect that measures the layers of vegetation cover and structural diversity. This method of measuring cover is described in *Framework to Assist in Making Sensitive Species Habitat Assessments for BLM-administered Public Lands in Idaho* (BLM, 2000).

Utilization would be monitored during and at the end of the grazing season each year, at key areas established by the interdisciplinary team and the permittee. Data gathered here would be used as triggers in meeting management guidelines. In upland areas, utilization relating to MGs 1,2 and 3 would be measured using the Height-Weight Method, Utilization pattern mapping may also be done as needed to help in the location of key areas. Utilization in riparian areas for MGs 4 and 5 would be done using the Residual Measuring Method. Utilization of shrubs in riparian and upland areas for MGs 8 and 9 would be done using the Extensive Browse Method. These utilization methods are described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996).

Actual use would be summarized from actual use reports collected at the end of the season. Actual Use would be submitted annually by each permittee within 15 days of the end of the authorized period of use.

Climate data would be used from the NOAA weather stations located at Glenns Ferry, Castleford, Bruneau, and Hollister, all in Idaho, and precipitation data collected at all ten of BLM's precipitation stations.

Production would be monitored on an as-needed basis. If Nested-plot Frequency studies indicate that a species has statistically significant lower or higher frequency of occurrence, production monitoring may be conducted to determine the overall production of the species and the ecological condition. Production studies would be completed as described by BLM's *Inventory and Monitoring Technical Reference TR-1734-7*. Application of this method would include three transects of at least 10 plots at each site monitored in native areas. These 30 plots would be estimated by the ocular method described in the Technical Reference guidance, with at least 6 of the 30 plots clipped for purposes of "double sampling" and adjusting the ocular estimates. In areas where vegetation diversity is low, such as in Crested Wheatgrass seedings or areas dominated with annual vegetation, data would be collected at 15 plots in one transect with at least 3 clipped plots.

Monitoring identified in the Candidate Conservation Agreement for Slickspot Peppergrass (*Lepidium papilliferum*) (BLM et al, 2003) would be accomplished as part of this proposed action. Monitoring would also be established as necessary for other plant and animal species which are proposed for listing or are listed under the Endangered Species Act. If found and as appropriate, conferencing and/or consultation would be initiated with the U. S. Fish and Wildlife service. Management alternatives would be developed in consultation with the permittee, government agencies responsible for natural resource management on public lands, and interested publics to develop alternatives to mitigate impacts to the species.

Cultural resource monitoring of historic properties (i.e., sites that are eligible for nomination to the National Register of Historic Places) would be conducted on an annual basis. The purpose of this monitoring would be to provide quantitative documentation of the physical condition of particular sites and to identify the source and degree of any impacts.

Formal allotment assessments including the evaluation of monitoring data would be completed after ten years. The evaluation would indicate if management actions were successful in meeting the Rangeland Health Standards and achieving resource objectives. The assessment would recommend changes, if necessary, in allotment management based upon all monitoring studies and data.

2.2 Alternative 2

Permitted grazing levels under Alternative 2 would be limited to the proposed 20-year projections identified in Appendix D-1 of the Jarbidge RMP Record of Decision (USDI 1987a). Where allotments have been subdivided since completion of the RMP, AUMs would be pro-rated based on the proportion of permitted use in each new allotment. Alternative 2 would not provide for authorizing TNR. Proposed levels of permitted use by allotment are presented in Table 2.3. As shown in the same table, 12 of the allotments would not have full-year flexibility for season of use. Some of the specified shorter seasons of use would eliminate grazing within the allotment during the critical growing period for perennial vegetation. Consistent with the other three Alternatives, Alternative 2 would implement the same MGs as Alternative 1 to achieve conformance with the S&G assessments (Table A.1, Appendix A) and the RMP objectives (Table A.2, Appendix A). This Alternative would also include the same project development as described for Alternative 1 (Table 2.2).

2.3 Alternative 3

Alternative 3 would continue to authorize existing grazing operations, except that the same MGs as identified for Alternative 1 would be applied under the new permits. Adjustments in existing grazing operations would be required to be in conformance with management guidelines prescribed for each allotment and pasture (Table A.3, Appendix A). Permitted use would remain essentially unchanged under this Alternative and TNR would continue to be authorized within the historic range of use. Table 2.1 displays the historic range of TNR use along with the present permitted use for each allotment. Alternative 3 would include the same project development as described for Alternative 1 (Table 2.2).

2.4 Alternative 4

Alternative 4 would continue authorization of existing grazing operations under new permits, but only at present permitted use levels (Table 2.1). No TNR would be authorized under this Alternative; therefore, total authorized grazing would be substantially less than allowed under the historic range of use. As in the previous three Alternatives, grazing operations would be subject to the MGs prescribed for each allotment and pasture (Table A.3, Appendix A). Because of the reduced level of grazing use under this Alternative, most of the projects proposed in the Alternatives would not be needed to conform to S&G

assessments and RMP objectives. However, as shown on Table 2.2, the projects to enlarge the enclosure at the headwaters of Cedar Creek and to construct a water gap and drift fences at Three Mile Crossing would be included under this Alternative.

2.5 Alternatives Considered But Not Further Analyzed

An alternative was considered that would analyze authorizing present permitted use along with the historic range of TNR but without the application of MGs to meet Idaho Rangeland Health Standards and Jarbidge RMP objectives. This Alternative could also be considered a “no action” Alternative. This Alternative was removed from further consideration because it would not comply with regulations regarding S&G assessments. Furthermore, without the application of MGs listed in Table A.3, this Alternative would not fully address the Jarbidge RMP objectives. Of the four Alternatives analyzed in detail, Alternative 3 most closely represents the no action Alternative; however, it includes MGs that address the S&G recommendations and RMP objectives, as required by BLM regulations.

An alternative was considered to increase the current permitted use to the maximum amount of TNR grazing use authorized since 1990. However, there is inadequate documented monitoring data available to determine the effects of the levels of grazing use authorized as TNR use during this period. For that reason, an increase in permitted use would not be in compliance with the RMP, which requires any increases in permitted use to be based on monitoring. Therefore, this Alternative was removed from further consideration and analysis.

A “no grazing” Alternative was also considered. Under this Alternative, each permittee’s application to renew the 10-year term grazing permit would be denied. This Alternative was ruled out because it is not in compliance with the RMP objectives or the Taylor Grazing Act. A specific reference on page I-3 of the Jarbidge RMP (BLM 1987) states that the baseline for livestock grazing is 176,976 AUMs. (In 2002 the Jarbidge Field Office authorized 154,000 AUMs for livestock grazing.) On page I-7 of the RMP, 280,501 AUMs is identified as the grazing-level objective over the life of the RMP. At this time, actual use remains at 123,618 AUMs, which is less than half the stated objective of the RMP. Considering that vegetative production is substantially more than livestock utilization on many allotments, and the application of MGs will provide protection to those areas where improvement in condition and trend is needed, the Alternative of “no grazing” has been precluded from detailed analysis.

2.6 Management Guidelines

The MGs described in this section are the product of an interdisciplinary (ID) team effort that involved many meetings and lengthy deliberations of the Jarbidge Field Office staff. They have been developed from various resource management program and enhancement objectives and resource management requirements (including mandates from BLM policy, applicable federal laws, and Idaho State mandates) that apply to resources in each of the various allotments in the study area. The MGs are specifically responsive to recommendations from the S&G assessments and to objectives set forth in the Jarbidge RMP. The MGs have been uniformly applied to all four Alternatives.

During the analysis for this EA, the interdisciplinary team reviewed each allotment and pasture to determine whether its vegetation is primarily native, seeded with non-native species (e.g. Crested Wheatgrass), or a seeding with remnants of native vegetation. MGs were developed and applied to fit the characteristics and values typical of these communities. The interdisciplinary team has applied MGs to pastures and allotments as displayed in Tables A.1 and A.3, Appendix A. On a pasture-specific basis, these guidelines set the parameters in the development of the annual grazing plan and enforced through the 43 CFR 4100 regulations. The application of MGs is not intended and shall not preclude future initiation of range improvement or habitat restoration projects such as to benefit sage grouse.

The following list provides a narrative description of the 16 MGs addressed in this EA:

1. Upland utilization on native bunchgrass plant communities (pasture greater than 50 percent native by cover) would be limited to 40 percent utilization as measured in key areas. Livestock may be moved or relocated within a pasture when utilization targets have been met if more than one key area exists and utilization targets have not been met in all key areas. Utilization would be conducted based on the Height-Weight methodology described in Interagency TR (TR) 1734-3, *Utilization Studies and Residual Measurements*.

For grazing use that occurs between March 1 and May 15 native pastures would be stocked to achieve no more than 40 percent utilization. Utilization measurements would be conducted after May 15 (in accordance

with TR 1734-3) to verify that the pasture was stocked appropriately. Management adjustments within the allocated permitted use would be made in subsequent years based on actual use and utilization data.

2. Seeded pastures (pastures greater than 50 percent seeded non-native species) with less than 15 percent sagebrush cover would be limited to 50 percent utilization as measured in key areas. Livestock may be moved or relocated within a pasture when utilization targets have been met if more than one key area exists and utilization targets have not been met in all key areas. Grazing use may be authorized in annual grazing plans up to an average of 70 percent on Crested Wheatgrass in key areas on an occasional basis (once in 5 years) to reduce/prevent Crested Wheatgrass wolf plants. When 70 percent grazing use is authorized in key areas within a seeded pasture, use in the remaining seeded pastures would be at 50 percent or less; in the native pastures at 40 percent or less; and total grazing use would be limited to the permitted use in the allotment. Utilization would be calculated based on the Height-Weight Methodology described in Interagency TR 1734-3, *Utilization Studies and Residual Measurements*.

For grazing use that occurs between March 1 and May 15, seeded pastures would be stocked to achieve no more than 50 percent utilization. Utilization measurements would be conducted after May 15 (in accordance with TR 1734-3) to verify that the pasture was stocked appropriately. Management adjustments to grazing would be made in subsequent years based on actual use and utilization data.

3. Seeded pastures (pastures with greater than 50 percent seeded non-native species) with greater than 15 percent sagebrush cover would be limited to 40 percent utilization as measured in key areas. Livestock may be moved or relocated within a pasture when utilization targets have been met if more than one key area exists and utilization targets have not been met in all key areas. Utilization would be calculated using the Height-Weight methodology described in Interagency TR 1734-3, *Utilization Studies and Residual Measurements*.

For grazing use that occurs between March 1 and May 15 in seeded pasture would be stocked to achieve 40 percent utilization. Utilization measurements would be conducted after May 15 (in accordance with TR 1734-3) to verify that the pasture was stocked appropriately. Management adjustments would be made in subsequent years based on actual utilization.

4. Stream segments assessed as functional-at-risk (FAR) with an upward trend would be subject to a median four (4) inch stubble height on key hydric herbaceous plant species, at the end of the growing season (Clary and Leininger 2000). Stubble height would be measured along the greenline in key riparian areas dominated by herbaceous species or herbaceous mix with woody species. Streams assessed at proper functioning condition (PFC) would be subject to Management Guideline (MG) 15. Key species would be determined on site. Utilization in riparian areas would be measured using the Residual Measuring Method. As described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996)
5. Stream segments assessed as functioning at risk with no apparent trend or a downward trend or streams that are non-functional would be subject to a minimum six (6) inch median stubble height on key hydric plant species or species groups at the end of the growing season (Clary and Leininger 2000). The stubble height would be measured along the greenline in key riparian areas dominated by herbaceous species or herbaceous mix with woody species. Key species would be determined on site. In riparian areas along streams not meeting Idaho Water Quality Standards for their beneficial use where the cause is a result of livestock management within the pasture as identified by a interdisciplinary team and monitoring, this MG would apply. Utilization in riparian areas would be measured using the Residual Measuring Method. As described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996)
6. For known or suspected sensitive fish-bearing streams, livestock would be managed so stream bank alteration is minimized to allow improving trends toward or maintain PFC. If improving trends are not

occurring, streambank alteration would be limited to 10 percent of the stream bank in designated key areas (Cowley 2002). In riparian areas along streams not meeting Idaho Water Quality Standards for their beneficial use where the cause is a result of livestock management within the pasture as identified by a interdisciplinary team and monitoring, this MG would apply.

Stream bank damage would be measured using the method presented in "Monitoring the Current Year Streambank Alteration, Ervin R. Cowley, Bureau of Land Management, Idaho State Office, March, 2002" as modified based on future research.

7. On streams that are known or suspected to be non-fish bearing, livestock would be managed so that stream bank alteration is minimized to allow improving trends toward or maintaining PFC. If improving trends are not occurring, streambank alteration would be limited to 20 percent in designated key areas (Cowley 2002).

Stream bank damage would be measured using the method presented in "Monitoring the Current Year Streambank Alteration, Ervin R. Cowley, Bureau of Land Management, Idaho State Office, March, 2002" as modified based on future research.

8. In riparian areas dominated by woody species or a mix of woody and herbaceous species, livestock would be managed so that regeneration of woody species would be allowed to occur. If regeneration is not allowed to occur, woody species use would be limited to no more than 50 percent frequency of nipping (about 25 percent utilization) on current year leaders of key riparian shrubs accessible to livestock in key areas (Stickney 1966). Key species would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. Utilization methods are described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996)
9. In upland areas, livestock would be managed so that no more than 50 percent of browsing (frequency of nipping) would occur on current year leaders on key upland shrubs in key areas (Stickney 1966). Key species

would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. These utilization methods are described in described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996)

10. In big game winter range, livestock would be managed so that less than 50 percent of current year leaders are browsed (frequency of nipping) on key forage shrubs where woody species are susceptible to damage by browsing and where livestock utilization is affecting normal growth and/or age class structure (Stickney 1966). Key species would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. These utilization methods are described in described in *Utilization Studies and Residual Measurements Interagency Technical Reference* (FS, 1996)
11. Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient growth to achieve and maintain healthy, properly functioning conditions including good plant vigor and adequate plant cover appropriate to site potential.
12. In bighorn winter and lambing range, grazing of winter range or lambing range pastures during critical times would occur after coordination with the Idaho Department of Fish and Game and the affected permittee. The critical winter range period is December 1 through March 15 and for lambing is from May 1 through June 15.
13. In big game winter range, grazing of winter range during critical times would occur after coordination with the Idaho Department of Fish and Game and the affected permittee has occurred. The critical period is from December 1 to March 15.
14. In aspen groves, allow no more than 50 percent browsing (frequency of nipping on those parts of woody species accessible to livestock) on current annual growth of aspen and associated key shrub species (chokecherry and serviceberry) in aspen stands and mountain shrub habitats.
15. Knowledgeable and reasonable practices other than those listed herein may be used to

meet applicable land use objectives and applicable Rangeland Health Standards. These practices may be initiated subject to scientific literature; monitoring data collected over time; consultation, coordination and cooperation; and consistent with 43 CFR 4130.3 and 43 CFR Part 4100, subpart 4160 and NEPA.

Requirements under MG 15 would be tailored to individual allotments, as shown on Table A.3, Appendix A. Examples of MG 15 practices include a restriction on increasing grazing use in WSAs until IMP requirements are met; a prohibition on placing supplement feed such as salt or mineral in ACECs; and a requirement to place supplement at least .25 mile away from identified sensitive areas, including Salmon Falls Canyon, Cedar Creek, Cedar Creek Reservoir, Saylor Creek, Dry Lake Complex, East Fork Bruneau River, and hedgehog cactus sites.

16. In areas of Sage grouse strongholds, grazing management would include shutting off troughs near sage grouse leks during nesting season; locating new troughs at least 0.25 miles away from large sagebrush stands where there is adequate area on non-sagebrush plant communities; placing any new salting (other approved supplement) areas at least 0.25 miles from leks; placing salting areas at least .25 miles from sage brush stands where there is adequate areas of non-sagebrush plant communities; and new fencing would be located at least 0.6 miles from leks. These management strategies and MG 1, 3, 9, and 11 would provide parameters for Adaptive Management to assure adequate nesting, brood rearing and winter habitat is available for sage grouse.

2.7 Comparison of Alternatives

Table 2.2 (Past, Present, and Alternative 1 Proposed Permitted Grazing Use by Allotment) is presented previously in Section 2.1. It provides a baseline description of present permitted use, RMP recommended grazing use, historical range of TNR use, historical range of total authorized use, and proposed permitted use under Alternative 1. It is helpful for comparing all Alternatives to historical levels of use.

Table 2.3 compares permitted use, season of use, kind and class of livestock, and proposed MGs for each

allotment under each of the four Alternatives. It provides a good “side by side” comparison by allotment of the vegetative allocations and other management proposed under each Alternative.

As stated previously, all four Alternatives include the same proposed MGs. The interdisciplinary team determined that all four Alternatives must meet the basic requirement of responding to the S&G assessments and conforming to the RMP objectives.

Alternatives 1, 2 and 3 include the same project development proposals. Within the vegetative allocations proposed for these three Alternatives, it was determined by the interdisciplinary team that the projects were necessary to respond to the S&G assessments and the RMP objectives. With only two exceptions, the proposed projects were considered to be unnecessary to meet management objectives in Alternative 4. Table 2.2 provides a brief description of new projects presently identified for each grazing allotment. These projects apply only to Alternatives 1 through 3, except for the two identified with an asterisk (*), which also apply to Alternative 4.

Table 2.3 - Comparison of Authorized Use and Management Guidelines for all Alternatives

71 Desert Allotment 1099				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	04/01 to 12/31	12/01 to 05/15	12/01 to 05/15
Animal Unit Months	3,652	3,652 (RMP-4,925) ^c	2,981 up to 5,092 with TNR	2,981
Number of Cattle*	304 Cattle	404 Cattle	574 to 933 Cattle	574 Cattle
Proposed Management Guidelines	1, 2, 5, 6, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 8, 9, 10, 11, 13, 15 ^f , 16
Antelope Springs Allotment 1096				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	04/01 to 11/30	04/01 to 11/30
Animal Unit Months-Cattle	5,965	5,965	4,252 up to 8,311 with TNR	5,965
Animal Unit Months-Sheep	81	81	54 up to 141 with TNR	81
Number of Cattle*	504 Cattle	504 Cattle	750 Cattle	750 Cattle
Number of Sheep*	34 Sheep	34 Sheep	34 Sheep	34 Sheep
Proposed Management Guidelines	1, 2, 5, 7, 8, 9, 10, 11, 13, 14, 15 ^f , 16	11, 2, 5, 7, 8, 9, 10, 11, 13, 14, 15 ^f , 16	1, 2, 5, 7, 8, 9, 10, 11, 13, 14, 15 ^f , 16	1, 2, 5, 7, 8, 9, 10, 11, 13, 14, 15 ^f , 16
Blackrock Pocket Allotment 1102				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	07/01 to 11/30	07/01 to 11/30
Animal Unit Months	1,890	1,890 (RMP-2,325) ^b	1,890 up to 2,165 with TNR	1,890
Number of Cattle*	376 Cattle	376 Cattle	376 Cattle	376 Cattle
Proposed Management Guidelines	1, 9, 10, 11, 12, 13, 15 ^f , 16	1, 9, 10, 11, 12, 13, 15 ^f , 16	1, 9, 10, 11, 12, 13, 15 ^f , 16	1, 9, 10, 11, 12, 13, 15 ^f , 16
Brackett Bench Allotment 1008				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	06/01 to 7/31, 11/01 to 11/30	06/01 to 7/31, 11/01 to 11/30
Animal Unit Months	2,386	2,386 (RMP-AMP) ^d	2,386	2,386
Number of Cattle*	199 Cattle	199 Cattle	1,000 Cattle	1,000 Cattle
Proposed Management Guidelines	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 15 ^f , 16	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 15 ^f , 16
Bruneau Hill Allotment 1057				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	03/01 to 04/15, 11/01 to 02/28	03/01 to 04/15, 11/01 to 02/28
Animal Unit Months	4,200	4,200 (RMP-15,668) ^c	4,200 up to 6,512 with TNR	4,200
Number of Cattle*	350 Cattle	767 to 1,192 Cattle	767 to 1,192 Cattle	767
Proposed Management Guidelines	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16

Table 2.3 (continued)

Camas Slough Allotment 1095				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	05/15 to 12/01	07/01 to 07/31	07/01 to 07/31
Animal Unit Months	253	231 (RMP-231) ^b	180 up to 401 with TNR	180
Number of Cattle ^e	21	35	177 to 393	177
Proposed Management Guidelines	1, 9, 11, 16	1, 9, 11, 16	1, 9, 11, 16	1, 9, 11, 16
Cedar Creek Allotment 1131				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	06/15 to 11/15	06/01 to 11/30	06/01 to 11/30
Animal Unit Months-Cattle	4,421	4,065 (RMP-4,065) ^b	4212 up to 7,544 with TNR	4212
Animal Unit Month-Sheep	22	20	21 up to 30 with TNR	21
Number of Cattle ^e	370	802	696 to 1,246	696
Number of Sheep ^e	9	8	17 to 25	17
Proposed Management Guidelines	1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15 ^f , 16	1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15 ^f , 16	1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15 ^f , 16	1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15 ^f , 16
Coonskin AMP Allotment 1123				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	03/01 to 05/31 12/01 to 12/30	03/01 to 05/31 12/01 to 12/30
Animal Unit Months-Cattle	3,554	3,681 (RMP-AMP) ^d	3,109 up to 5,169 with TNR	3,109
Animal Unit Months-Sheep	1,914	1,982 (RMP-AMP) ^d	1,674 up to 1,866 with TNR	1,674
Number of Cattle ^e	296 Cattle	259	775 to 1,288	775
Number of Sheep ^e	797	697	2,086 to 2,325	2,086
Proposed Management Guidelines	1, 3, 9, 11, 15 ^f , 16	1, 3, 9, 11, 15 ^f , 16	1, 3, 9, 11, 15 ^f , 16	1, 3, 9, 11, 15 ^f , 16
Crawfish Allotment 1118				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	04/01 to 12/15	04/01 to 05/31 10/01 to 11/30	04/01 to 05/31 10/01 to 11/30
Animal Unit Months	650	650 (RMP-2,439) ^b	650 up to 1,067 with TNR	650
Number of Cattle ^e	54	77	162	162
Proposed Management Guidelines	1, 9, 10, 11, 13, 16	1, 9, 10, 11, 13, 16	1, 9, 10, 11, 13, 16	1, 9, 10, 11, 13, 16
East Juniper Draw Allotment				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	04/01 to 12/31	05/1 to 05/31	05/1 to 05/31
Animal Unit Months	2,474	2,474 (RMP-2,740) ^b	907 up to 4,241 with TNR	907
Number of Cattle ^e	206	206	889 to 4,150	889
Proposed Management Guidelines	1, 9, 11, 15 ^f , 16	1, 9, 11, 15 ^f , 16	1, 9, 11, 15 ^f , 16	1, 9, 11, 15 ^f , 16

Table 2.3 (continued)

Echo 4 Allotment 296				
	Alternative 1	Alternative 2 ^c	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	03/15 to 12/31	03/01 to 02/28	03/01 to 02/28
Animal Unit Months	3,740	3,740 (RMP-4,364) ^c	2,309 up to 5,629 with TNR	2,309
Number of Cattle ^e	311	389	192	192
Proposed Management Guidelines	2, 3, 9, 11, 16	2, 3, 9, 11, 16	2, 3, 9, 11, 16	2, 3, 9, 11, 16
Flat Top Allotment 1059				
	Alternative 1	Alternative 2 ^c	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	03/01 to 02/28	03/01 to 02/28	03/01 to 02/28
Animal Unit Months	5,761	5,761 (RMP-12,726) ^c	3,248 up to 5,958 with TNR	3,048
Number of Cattle ^e	480	480	254 to 496	254
Proposed Management Guidelines	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16	1, 2, 9, 10, 11, 12, 13, 15 ^f , 16
Grassy Hills Allotment 1029				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	04/01 to 10/31	07/01 to 07/30	07/01 to 07/30
Animal Unit Months	858	858 (RMP-1,250)	658 up to 1,868 with TNR	658
Number of Cattle ^e	71	71	667 to 1,892	657
Proposed Management Guidelines	1, 9, 11, 16	1, 9, 11, 16	1, 9, 11, 16	1, 9, 11, 16
Noh Field Allotment 1140				
	Alternative 1	Alternative 2 ^c	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	03/15 to 12/31	12/01 to 12/30	12/01 to 12/30
Animal Unit Months	1,073	947 (RMP-947) ^c	528 up to 1,479 with TNR	528
Number of Cattle ^e	89	99	527 to 1,499	527
Proposed Management Guidelines	2, 9, 11, 15 ^f , 16	2, 9, 11, 15 ^f , 16	2, 9, 11, 15 ^f , 16	2, 9, 11, 15 ^f , 16
North Fork Field Allotment 1088				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use	03/01 to 02/28	07/01 to 11/01	07/01 to 07/30	07/01 to 07/30
Animal Unit Months	570	570 (RMP-590) ^c	570 up to 1,774 with TNR	570
Number of Cattle ^e	47	140	578 to 1,798	578
Proposed Management Guidelines	1, 5, 6, 8, 9, 11, 14, 15 ^f , 16	1, 5, 6, 8, 9, 11, 14, 15 ^f , 16	1, 5, 6, 8, 9, 11, 14, 15 ^f , 16	1, 5, 6, 8, 9, 11, 14, 15 ^f , 16

Table 2.3 (continued)

Pigtail Butte Allotment 1125				
	Alternative 1	Alternative 2	Alternative 3 ^a	Alternative 4
Season of Use Cattle	03/01 to 02/28	04/01 to 11/30	04/01 to 11/30	04/01 to 11/30
Season of Use Sheep	03/01 to 02/28	04/01 to 11/30	03/15 to 05/14	03/15 to 05/14
Animal Unit Months-Cattle	3,386	3,386 (RMP-3,820) ^b	1,813 up to 3,327 with TNR	1,813
Animal Unit Months-Sheep	2,146	2,146 (RMP-2,146) ^b	2,146 up to 2,980 with TNR	2,146
Number of Cattle ^c	282	422	226 to 414	226
Number of Sheep ^c	894	1,337	5,347 to 7,425	5,347
Proposed Management Guidelines	1, 2, 3, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 2, 3, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 2, 3, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 2, 3, 5, 6, 8, 10, 11, 13, 15 ^f , 16
Three Creek #8 Allotment 1070				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	06/01 to 11/30	06/01 to 06/30 10/01 to 11/30	06/01 to 06/30 10/01 to 11/30
Animal Unit Months	797	797 (RMP-927) ^b	797 up to 867 with TNR	797
Number of Cattle ^c	66	114	266 to 290	266
Proposed Management Guidelines	1, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 5, 6, 8, 10, 11, 13, 15 ^f , 16	1, 5, 6, 8, 10, 11, 13, 15 ^f , 16
Winter Camp Allotment 1064				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Season of Use	03/01 to 02/28	04/01 to 12/31	04/01 to 02/04	04/01 to 02/04
Animal Unit Months	519	519 (RMP-912) ^c	515 up to 626 with TNR	515
Number of Cattle ^c	43	54	51 to 62	51
Proposed Management Guidelines	1, 6, 8, 9, 10, 11, 12, 13, 15 ^f , 16	1, 6, 8, 9, 10, 11, 12, 13, 15 ^f , 16	1, 6, 8, 9, 10, 11, 12, 13, 15 ^f , 16	1, 6, 8, 9, 10, 11, 12, 13, 15 ^f , 16

^a Grazing would continue in accordance with the approved Grazing Management Plan and the Management Guidelines.

^b This number is the proposed 20-year allocation level from the Jarbidge RMP.

^c Allotments that were subdivided out of a larger common allotment after the Jarbidge RMP was implemented. The allocation level proposed in the RMP is prorated from that proposed for the larger common allotment based on current permitted use (previously known as grazing preference).

^d There was no definitive proposed allocation of additional AUMs in 20 years. The allocation level depended on the success of the then approved AMP.

^e The number of livestock would be allowed to vary with a corresponding change in season of use, consistent with the annual grazing management plan, provided that total permitted AUMs were not exceeded.

^f Requirements under MG 15 would be tailored to individual allotments, as shown on Table A.3. Examples of MG 15 practices include a restriction on increasing grazing use in WSAs until IMP requirements are met; a prohibition on placing supplement feed such as salt or mineral in ACECs; and a requirement to place supplement at least .25 mile away from identified sensitive areas, including Salmon Falls Canyon, Cedar Creek, Cedar Creek Reservoir, Saylor Creek, Dry Lake Complex, East Fork Bruneau River, and hedgehog cactus sites.

Section 3.0 - Affected Environment

3.1 Federal Trust Responsibilities and Tribal Concerns

The federal government has a special trust responsibility, defined by treaty, statute, court decisions, regulation and policy, to recognize and support its government-to-government relationship with Indian nations and assess the impact actions may have on tribal self-government, rights, lands and natural resources, and cultural and religious values (see, among others, Executive Memorandum, 1994; Executive Order 13084; Executive Order 13175; Secretarial Order 3206).

Preservation of archaeological and sacred sites, access to traditional cultural properties and natural areas, land use, environmental health of the area, all natural resources addressed in this EA, communication, and sovereignty are issues of tribal concern.

JFO staff members (including the cultural resource specialist and field office manager) meet regularly with representatives from the Shoshone-Paiute Tribes of the Duck Valley Reservation and the Shoshone-Bannock Tribes of the Fort Hall Reservation on cultural resource and land use issues. These meetings provide an opportunity to address tribal concerns throughout the environmental assessment process. The Shoshone-Bannock have treaty rights reserved in the Fort Bridger Treaty of 1868 that protect their right to hunt and fish on the unoccupied lands of the United States.

3.2 Livestock Grazing Management

This section presents information regarding current grazing operations for each of the 18 allotments addressed in this EA, including the current number of authorized animal unit months (AUMs) of permitted use, AUMs of historic temporary nonrenewable (TNR) use, the typical season of grazing use, and the percent forage utilization (see Table 2.2 to compare AUMs among allotments). Utilization data taken in 2001, 2002 and a limited amount in 2003 are reported unless otherwise noted. Although most of the grazing permits identify a number of livestock to be licensed, the numbers are allowed to vary, provided that the authorized number of AUMs is not exceeded. Therefore, numbers of livestock are not included in the descriptions.

71 Desert

Current permitted use is for a total of 2,981 AUMs. Season of use is December 1 to May 15. TNR grazing use has been authorized in 11 of the last 13 years (since 1990) and has ranged from 0 to 2111 AUMs. The allotment consists of four pastures that contain primarily native communities and one pasture that has primarily Crested Wheatgrass. Utilization of Crested Wheatgrass averaged 42 percent in 2001 and 31 percent in 2002. An adaptive grazing system is in place, which allows flexibility in timing and rotation of use to adjust to observed conditions.

Antelope Springs

Current permitted use is 6,046 AUMs (5965 AUMs for cattle and 81 AUMs for sheep). Season of use is April 1 to June 30, July 1 to October 30, and November 1 to January 30 for cattle, and June 1 to June 5 for sheep. TNR use has been authorized in 11 of the last 13 years (since 1990) and has ranged from 0 to 2676 AUMs. The allotment consists of 10 pastures and the cattle grazing use is outlined in a Livestock Management/Grazing Plan developed in 1993. According to this plan, some pastures are used as winter range, some as spring range, some as late spring/early summer range, and one as a summer range. The sheep are trailed through parts of the allotment in early June. Utilization of Crested Wheatgrass averaged 41 percent in 1979 and 49 percent in 2002. Utilization of native range averaged 20 percent in 1979 and 37 percent in 2001.

Blackrock Pocket

Current permitted use is for a total of 1,890 AUMs. Season of use is July 1 to November 30. TNR use has been authorized in only 2 years since 1990 and has ranged from 0 to 275 AUMs. The allotment consists of a single pasture. Utilization of bluebunch wheatgrass averaged 30 percent in 2002.

Brackett Bench

Current permitted use is for a total of 2,386 AUMs. Season of use is June 1 to July 31 and November 1 to November 30. TNR use has been authorized in 3 years since 1990 and has ranged from 0 to 846 AUMs. The allotment consists of 8 pastures. The current grazing plan calls for a deferred-rotation system in conjunction with other allotments used by the permittee. Utilization of bluebunch wheatgrass averaged 30 percent in 2002. Utilization of native range averaged 35 percent in 2002 and 8 percent in 2001. Average use of Crested Wheatgrass was 21 percent in 2003.

Bruneau Hill

Current permitted use is for a total of 4,200 AUMs. Season of use is March 1 to April 15 and November 1 to February 28. TNR use has been authorized in 5 years since 1990 and has ranged from 0 to 2312 AUMs. The allotment consists of 6 pastures, 4 of which have primarily Crested Wheatgrass vegetation, and 2 of which have native vegetation. No formal grazing management plan exists, but the allotment is managed so that no pasture is used during the critical growth period for 2 consecutive years. Movement of cattle by April 15 allows vegetation to complete growth prior to being grazing the next winter. A considerable portion of the allotment consists of land under special management; an ACEC and WSA are present in 5 of the 6 pastures, the 6 pastures contain a majority of lands under a withdrawal to the Air Force for the Saylor Creek Training Range, and a portion of the northern pasture lies within the Snake River Birds of Prey National Conservation Area.

Camas Slough

Current permitted use is for a total of 180 AUMs. Season of use is July 1 to July 31, with some flexibility in season of use allowed. TNR use has been authorized in 2 years since 1990 and has ranged from 0 to 221 AUMs. The allotment consists of a single pasture. The allotment is used mainly as a holding area while trailing from winter to summer allotments, with grazing use only 2-7 days each year. Utilization on native range was estimated to be between 4 and 15 percent in 1999.

Cedar Creek

Current permitted use is for a total of 4,212 AUMs for cattle and 21 AUMs for sheep. The season of use is June 1 to November 30 for cattle, and the allotment is used in conjunction with other allotments by the permittee. Sheep use is from June 1 to June 2 for trailing. TNR use has been authorized in 8 years since 1990 and has ranged from 0 to 3311 AUMs. The allotment consists of six pastures. The three lower pastures are grazed in a deferred-rotation system, which alternates use between late spring and early summer/fall use. Utilization on native range averaged 44-55 percent and use on Crested Wheatgrass averaged 44 percent in 2001. BLM land along Cedar Creek is habitat for sensitive species.

Coonskin AMP

Current permitted use is for a total of 3,109 AUMs for cattle, plus 1,674 AUMs for sheep. The total permitted use is 4,783 AUMs. The season of use is March 1 to May 31 and December 1 to December 30 for cattle, with an adaptive grazing management system, and March 1 to July 31 for sheep. Cattle graze in a rotation system in the eight pastures in late spring, fall, and winter in conjunction with other

allotments used by the permittee. Sheep use is mainly for trailing. TNR use has been authorized in 4 years since 1990 and has ranged from 0 to 2060 AUMs. Utilization on native range averaged 41 percent and 20 percent in 2001 and 2002. Use on Crested Wheatgrass averaged 43 percent and 18 percent in 2001 and 2002, respectively.

Crawfish

Current permitted use is for a total of 650 AUMs. The season of use is April 1 to May 31 and October 1 to November 30, which allows for periodic rest during the critical growth period in the spring between boot stage and flowering of perennial grasses. TNR use has been authorized in 10 years since 1990 and has ranged from 0 to 417 AUMs. The allotment consists of two pastures. Utilization on native range averaged between 5 and 22 percent in 1997 and averaged 8 percent in 2003.

East Juniper Draw

Current permitted use is for a total of 907 AUMs. The season of use is April 1 to May 31 and October 1 to November 30, which allows for periodic rest during the critical growth period in the spring between boot stage and flowering of perennial grasses. TNR use has been authorized in 7 years since 1990 and has ranged from 0 to 3,491 AUMs. The allotment consists of two pastures. Utilization on native range was between 11.5 percent and 35 percent in 2001. Utilization of Crested Wheatgrass ranged from 31 to 48 percent in 2001 and averaged 29.5 percent in 2002.

Echo 4

Current permitted use is for a total of 2,309 AUMs. The season of use is March 1 to February 28. The allotment consists of four pastures. The permittee grazes the allotment in the fall, winter, and spring, but does not graze any pasture during the critical growth period in the spring between boot stage and flowering of perennial grasses for two consecutive years. TNR use has been authorized on this allotment in 12 years since 1990 and has ranged between 0 and 3328 AUMs. Utilization on native range averaged 22 percent and use on Crested Wheatgrass averaged 44 percent in 2001.

Flat Top

Current permitted use is for a total of 3,240 AUMs. The season of use is March 1 to February 28. The permittee grazes the allotment in the fall, winter, and spring. The spring grazing is informally rotated through pastures to avoid grazing a pasture during the critical growth period in the spring between boot stage and flowering of the grasses for two consecutive years. TNR use has been authorized in 8 years since 1990 and has ranged from 0 to 2710. The

allotment consists of five pastures. Utilization on native range averaged 45.6 percent in 2003. Use on Crested Wheatgrass ranged from 2.5 to 8 percent in 1997, 2.5 - 2.9 percent in 1999 and 2.5 – 4.5 percent in 2001. Use on crested averaged 29 percent in 2003. An ACEC and WSA are present in the southwestern pasture of the allotment.

Grassy Hills

Current permitted use is for a total of 658 AUMs. The season of use is from July 1 to July 30. The allotment consists of two pastures. The allotment is mainly used for a trailing hold-over area when cattle are moved from winter to summer allotments. Grazing use generally occurs after the critical growth period of the perennial grasses. TNR use has been authorized in 6 years since 1990 and has ranged from 0 to 1,210 AUMs. Utilization on native range averaged 2.5 percent in 1999 but the use was observed prior to livestock turn-out in June.

Noh Field

Current permitted use is for 528 cattle with a total of 528 AUMs. The season of use identified in the grazing permit is December 1 to December 30; however, under provisions of the allotment management plan, use is allowed at other times, including the spring season. The allotment consists of two pastures and is used by the permittee in conjunction with other allotments. Use of the pastures is rotated so cattle do not graze during the critical growth period (April) of key species for two consecutive years in either pasture. TNR use has been authorized in 10 years since 1990 and has ranged from 0 to 951 AUMs. Utilization on native vegetation ranged from 5.6 to 28 percent in 2001. Use on Crested Wheatgrass ranged from 19.7 to 48 percent in 2001 and from 10 to 15 percent in 2002.

North Fork Field

Current permitted use is for a total of 570 AUMs. The season of use is July 1 to July 30. TNR use has been authorized in 5 years since 1990 and has ranged from 0 to 1,204 AUMs. The allotment consists of one pasture and is used by the permittee in conjunction with other allotments. Cattle do not graze during the critical growth period of key species. Stubble height measurements on riparian areas were taken instead of utilization in 2001 and 2003. Average stubble height on was 2.5-5 inches on August 2, and 2.5-3.5 inches on October 26, 2001. Average stubble height was 12 inches on July 31, 2003.

Pigtail Butte

Current permitted use is 1813 AUMs for cattle and 2,146 AUMs for sheep, for a total of 3,959 AUMs. The season of use is April 1 to November 30 for

cattle and March 15 to May 15 for sheep. The allotment consists of nine pastures, five of which are used by cattle and four by sheep. Use by cattle is in conjunction with other allotments. Use by sheep is a combination of a three-pasture rest rotation system with one pasture used for trailing use by sheep. TNR use has been authorized in 5 years since 1990 and has ranged from 0 to 2,585 AUMs. Utilization on Crested Wheatgrass measured prior to issuance of TNR averaged 42 percent in 2001 and 31 percent in 2002.

Three Creek #8

Current permitted use is for a total of 797 AUMs. The season of use is June 1 to June 30 and October 1 to October 30. The allotment consists of three pastures. There is no formal grazing system. TNR use has been authorized in 4 years since 1990 and has ranged from 0 to 70 AUMs, with an average of 21 AUMs over the 13 years. Utilization on Crested Wheatgrass taken prior to TNR averaged 2.5 percent in 1998, 1999, and 2000. Use of Crested Wheatgrass after grazing averaged 40 percent in 2001.

Winter Camp

Current permitted use is for a total of 515 AUMs. The season of use is April 1 to February 4. The allotment consists of two pastures with an additional pasture proposed. There is no formal grazing system. TNR use has been authorized in 6 years since 1990 and has ranged from 0 to 111 AUMs. Utilization on Crested Wheatgrass averaged 31 percent in 2002.

3.3 Vegetation

The historic vegetation of the JFO area rangeland is sagebrush steppe. There are 14 different vegetation units associated with the grazing allotments (Figure 3.1). For forage management purposes, the vegetation units have been collapsed into four forage vegetation types which occur in the 18 allotments in the JFO area: Native, Seedings with Non-native Species, Seedings with >15 percent Sagebrush and Annual Range (Figure 3.2). Range condition, as determined by monitoring in 2002–2003, ranges from midseral (fair) to potential natural community (excellent) when compared to the desirable percentage composition of species described in the appropriate Ecological Site Guide. Annual ranges typically are the result of wildfire and/or failed seeding which are now dominated by cheatgrass, a non-native annual grass. Communities dominated by non-native species, either perennial (such as Crested Wheatgrass) or annual (such as cheatgrass) cannot be measured in terms of ecological condition or range condition. Areas dominated by cheatgrass usually are areas that have burned and were not seeded or where seeding has not produced the desired stand of non-native perennial species. Areas dominated by Crested

Wheatgrass usually are the result of seeding Crested Wheatgrass to quickly stabilize the soils in burned areas and prevent invasion of cheatgrass or other non-native weeds. Crested Wheatgrass seedings that have a strong native component (>15 percent sagebrush cover) through natural invasion or seeding are classified as “Seedings with >15 percent Sagebrush” and would be managed the same as native plant communities in terms of grazing management and utilization limits under the proposed action and Alternatives.

On allotments where vegetation production and range condition information was collected in 2002-2003, the similarity index (similarity to Potential Natural Community), range condition (seral state) and total production are summarized in Table 3.1. The ecological site where each sample was collected is indicated. For every allotment where sampling occurred, the range condition (seral state) increased (improved) at least one condition or seral state class from the samples taken in 1981-1983 on the same allotment. The methodology to determine range condition (seral state) was different in 1981-82 than in 2002-03. However, comparison between the results for the two periods is instructive and does provide the only basis to judge range condition trend. Because of space limitations, it is not possible to describe and quantify the two different approaches and the type of changes in range condition that took place on every range site on every allotment. However, all data are available in the JFO files to make these comparisons and details are presented in the Allotment Assessment document for each allotment. The term “Vegetation Type”, as used previously and shown in Figure 3.2, is not synonymous with the term “Ecological Site” used to indicate the sites where vegetation was sampled on each allotment in 2002-2003. Depending on seral state, a given Ecological Site may have several different vegetation types on it. For example, a Wyoming Big Sagebrush/Thurber’s Needlegrass Ecological site might have Thurber’s needlegrass as the dominant grass in late seral to PNC condition but have bluegrass (*Poa sandbergii*) as the dominant grass when in early or mid seral condition. This same Ecological Site might also have Crested Wheatgrass or annuals as the dominant plant species depending on past fire and cultural practices.

The types of changes that took place from 1981-1983 to 2002-2003 on native rangelands include: increases in amounts and percentage composition of desirable grass species, increases in amounts and percentage composition of forbs desirable for wildlife species, decreases in amount and/or percentage composition of cheatgrass, and, in areas that were recently burned in 1981-1983, increases in the amount of sagebrush

through natural succession. Although areas seeded to Crested Wheatgrass are not classified as to range condition or seral state, increases in sagebrush through natural succession to the threshold level of 15 or more percent cover also occurred in many seeded areas, which makes these areas function more like native plant communities and they are managed as such.

Table 3.1 and Figure 3.2 summarize the acres of native, seeded, seeded with >15 percent sagebrush and annual rangeland in each of the 18 Allotments. Table B.1 in Appendix B lists the total acres of all the vegetation communities in each allotment. Table 3.2 summarizes the determinations about conformance with Idaho State Standards for Rangeland Health for each of the 18 allotments.

71 Desert Allotment

The 71 Desert Allotment is located in the central west part of the JFO area (Jarbidge Field Office), with approximately 41 percent in MUA (Multiple Use Area) 10 and 59 percent in MUA 11. Total Federal acreage is 39,697. The dominant native vegetation type is Wyoming Big Sagebrush/Thurber’s Needlegrass, which makes up the majority of the native vegetation and 57 percent of the total vegetation on the allotment. Crested Wheatgrass stands occupy 27 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment for the 71 Desert Allotment (available for review at the JFO) where the production figures of both seeded and native stands are used to determine the level of proposed AUMs. The water year precipitation at two rain gauges (Big Draw and Three Creek Well) representative of conditions on the allotment were 79 percent and 75 percent of the long term average, respectively, in 2002 and 68 percent and 91 percent of the long term average respectively in 2003. These

Figure 3.1
Vegetation Units

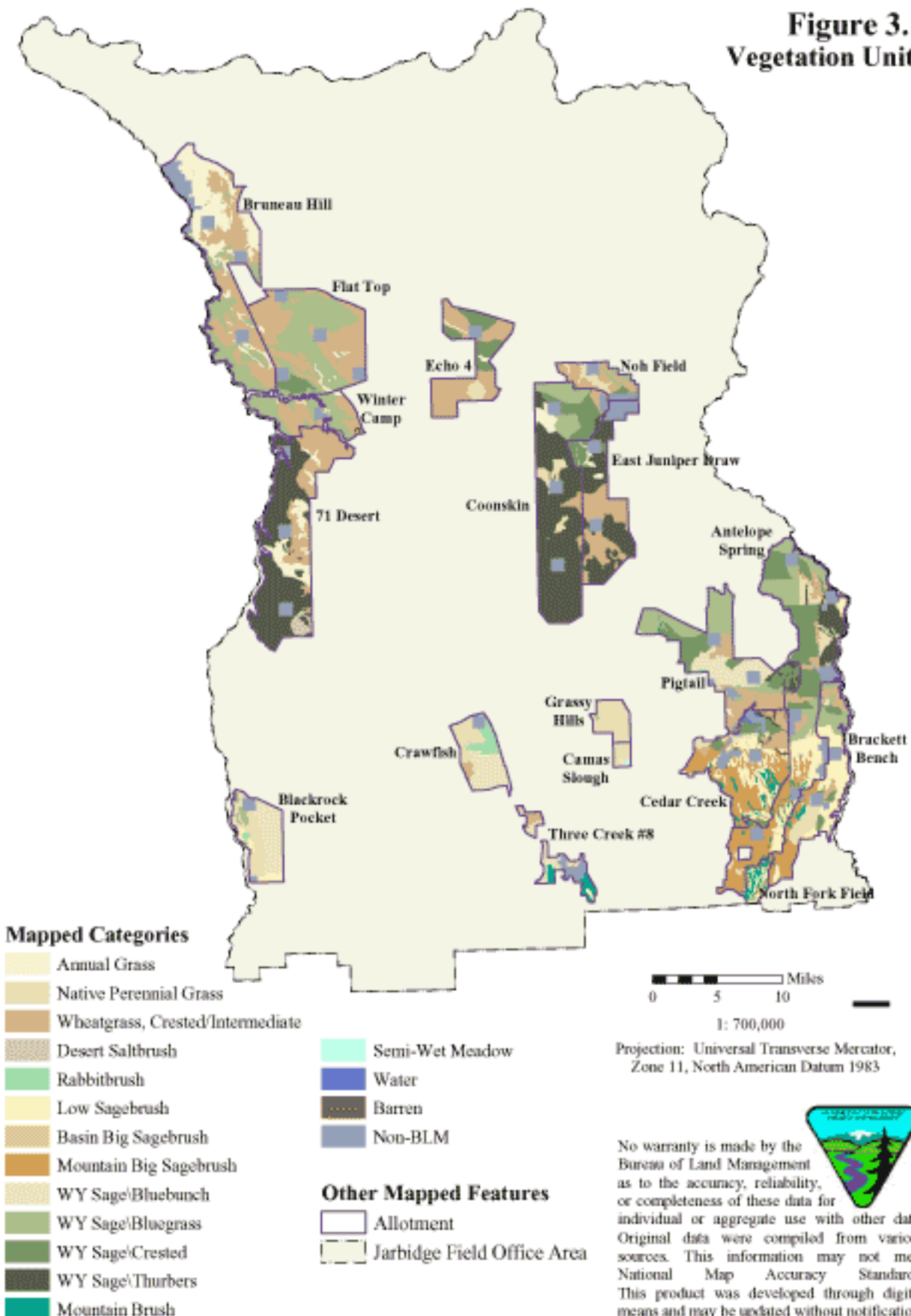
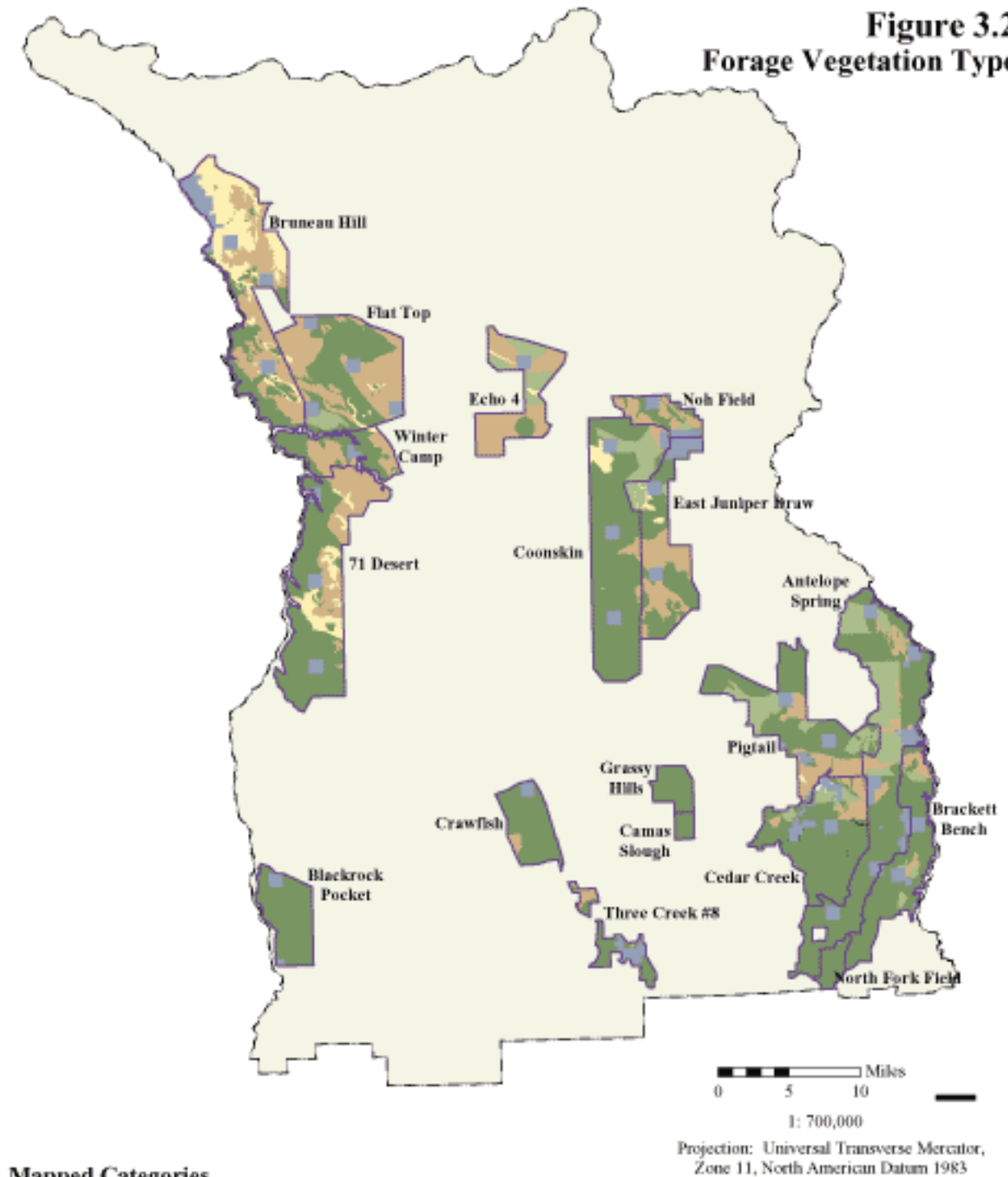


Figure 3.2
Forage Vegetation Type



Mapped Categories

- Annual
- Seedings
- Seedings with >15% sagebrush
- Native vegetation
- Barren
- Non-BLM

Other Mapped Features

- Allotment
- Jarvisburg Field Office Area

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Table 3.1 - Amount of Native, Seeded, Seeded with at Least >15 Percent Sagebrush, and Annual Vegetation in Each of the Allotments

Allotment (Total Federal Acres)	Forage Vegetative Type	Acres	Percent
71 Desert (39,697)	Native	24,107	61
	Seeded	10,835	27
	Annual	4,773	12
Antelope Springs. (45,966)	Native	31,308	68
	Seeded	3,476	8
	Seeded with >15 percent sagebrush	11,221	24
Blackrock Pocket (12,142)	Native	12,142	100
	Seeded	0	0
Brackett Bench (20,594)	Native	17,045	85
	Seeded	1,734	9
	Seeded with >15 percent sagebrush	1,122	6
Bruneau Hill (40,062)	Native	9,507	24
	Seeded	15,243	39
	Annual	14,696	37
Camas Slough (1,606)	Native	1,606	100
	Seeded	0	0
Cedar Creek (24,945)	Native	20,215	79
	Seeded	3,013	12
	Seeded with >15 percent sagebrush	1,956	8
Coonskin AMP (41,034)	Native	33,873	82
	Seeded	1,608	4
	Seeded with >15 percent sagebrush	4,139	10
	Annual	1,434	3
Crawfish (10,423)	Native	9,855	95
	Seeded	571	5
East Juniper Draw (20,704)	Native	10,396	50
	Seeded	8,059	39

Allotment (Total Federal Acres)	Forage Vegetative Type	Acres	Percent
	Seeded with >15 percent sagebrush	1,729	8
	Annual	549	3
Echo 4 (16,599)	Native	965	6
	Seeded	10,911	66
	Seeded with >15 percent sagebrush	4,420	27
	Annual	327	2
Flat Top (34,818)	Native	16,505	47
	Seeded	16,333	47
	Seeded with >15 percent sagebrush	1,459	4
	Annual	569	2
Grassy Hills (4,907)	Native	4,907	100
	Seeded	0	0
Noh Field (6,122)	Native	2,448	40
	Seeded	3,306	54
	Seeded with >15 percent sagebrush	376	6
North Fork Field (3,354)	Native	3,354	100
	Seeded	0	0
Pigtail Butte (28,576)	Native	17,152	60
	Seeded	6,146	21
	Seeded with >15 percent sagebrush	5,188	18
	Annual	94	1
Three Creek #8 (4786)	Native	3,850	80
	Seeded	938	20
Winter Camp (11,856)	Native	7,302	60
	Seeded	4,714	39
	Annual	183	2

**Table 3.2 - Summary of Determinations of Conformance to Idaho Standards for
Rangeland Health on 18 Allotments**

	1 (Watershed)		2 (Riparian/ Wetland)		3 (Stream Channel)		4 (Native Plant Community)		5 (Seedlings)		6 (Other Exotic)		7 (Water Quality)		8 (Special Status Species)	
	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor	Met	Ls Factor
71 Desert	No	Yes	No	Yes	No	Yes	No	No	No	Yes	N/A		No	No	No	Yes
Antelope Springs	No	Yes	No	No	No	No	No	Yes	No	Yes	N/A		Yes	No	No	Yes
Black Rock Pocket	No	Yes	N/A		N/A		No	Yes	N/A		N/A		N/A		No	Yes
Brackett Bench	No/ Yes	Yes	No/ Yes	Yes	No/ Yes	Yes	No/ Yes	Yes	No/ Yes	Yes	N/A		Yes	Yes	No/ Yes	Yes
Bruneau Hill	Yes	No	N/A		N/A		No	No	No	No	N/A		N/A		No	No
Camas Slough	Yes	No	N/A		N/A		Yes	No	N/A		N/A		N/A		Yes	No
Cedar Creek	Yes	No	No	Yes	No	Yes	No	Yes	No	Yes	N/A		Yes	No	No	No
Coonskin AMP	Yes	No	N/A		N/A		Yes	No	No	No	N/A		N/A		Yes	No
Crawfish	Yes	No	No	Yes	N/A		No	Yes	N/A		N/A		N/A		No	No
East Juniper Draw	No	No	N/A		N/A		No	No	No	No	N/A		N/A		No	No
Echo 4	Yes	No	N/A		N/A		Yes	No	No	No	N/A		N/A		No	No
Flat Top	Yes	No	N/A		N/A		No	Yes	No	No	N/A		N/A		No	Yes
Grassy Hills	Yes	No	N/A		N/A		Yes	No	N/A		N/A		N/A		No	No
Noh Field	No	Yes	N/A		N/A		Yes	No	No	Yes	N/A		N/A		No	No
North Fork Field	Yes	No	No	Yes	No	Yes	Yes	No	N/A		N/A		Unk		No	Yes
Pigtail Butte	No	No	No	Yes	No	Yes	Yes	No	No	Yes	N/A		No	Yes	No	No
Three Creek #8	Yes	No	No	Yes	No	Yes	Yes	No	Yes	No	N/A		No	Yes	No	Yes
Winter Camp	No		No	Yes	No	Yes	No	Yes	No	Yes	N/A		No	No	No	No

Ls factor=Livestock grazing is a factor in not meeting the Standard

Unk= Unknown

low precipitation figures, at least in part, are responsible for the low production.

This production sampling also determined range or ecological site condition. Four sites were sampled within the allotment. All were located in Wyoming Big Sagebrush/Thurber's Needlegrass on vegetation on Loamy 7-10" Ecological Sites. The results in Table 3.3 show use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002–03 results indicate an apparent improvement of condition (seral stage) compared to the 1981–83 sampling on this allotment.

Antelope Springs

The Antelope Springs Allotment is located in the southeast part of the JFO area, with the southern half located at higher elevations in MUA 15 and the northern half located at lower elevations in MUA 13. Total Federal acreage is 45,966. The dominant native vegetation types are Wyoming Big Sagebrush/Bluegrass which occupies 19 percent and Mountain Big Sagebrush which occupies 21 percent of the vegetation occurring on Federal land in the allotment. Crested Wheatgrass stands occupy 8 percent of the allotment but Wyoming Big Sagebrush/Crested Wheatgrass stands occupy an additional 24 percent of the allotment and are managed as native stands.

No vegetation production or range condition information was collected on this allotment in 2002 and 2003. However, twelve native vegetation sites have been monitored on study sites in this allotment established between 1988 and 1998. Monitoring included nested plot frequency and other methods. Two of these native sites were potentially meeting RMP objectives of maintaining good (late seral) condition in that situation. The other ten native sites were not meeting the RMP objectives to improve poor (early seral) or fair (mid seral) ecological conditions by one condition class. Two rain gauges are representative of conditions on the allotment, one (Cedar Mesa) for the lower, drier half of the allotment and the other (Monument Springs) for the higher, wetter half of the allotment. The water year precipitation at Cedar Mesa collected 86 and 83 percent of the long-term average precipitation in 2002 and 2003 while the Monument Spring gauge

collected 95 percent and 92 percent of average respectively in the two years.

Blackrock Pocket.

The Blackrock Pocket Allotment is located in the southwest part of the JFO area. All of the allotment is located in MUA 16. The total Federal acreage is 12,142. The dominant native vegetation type is Wyoming Big Sagebrush/Bluebunch Wheatgrass, which occupies 44 percent of the native vegetation occurring on Federal land in the allotment. The Bluebunch Wheatgrass type is the next most dominant vegetation type, occupying 30 percent of the allotment. No Crested Wheatgrass stands occur on the allotment.

No vegetation production or range condition information was collected on this allotment in 2002/2003. One rain gauge (Murphy Airfield) is representative of conditions on the allotment. The water year precipitation at this gauge was 80 percent and 78 percent of the long term average in 2001 and 2002 respectively.

Brackett Bench

The Brackett Bench Allotment is located in the southeast part of the JFO area, with the majority (90 percent) in MUA 15 but with 2130 acres at the north end in MUA-13. Total Federal acreage is 20,594. The dominant native vegetation type is Low Sagebrush which occupies 34 percent of the native vegetation occurring on Federal land in the allotment. Mountain Big Sagebrush occupies 22 percent of the allotment. Crested Wheatgrass stands occupy 9 percent of the allotment but Wyoming Big Sagebrush/Crested Wheatgrass stands occupy 6 percent of the allotment and are managed as native stands.

No vegetation production or range condition information was collected on this allotment in 2002 and 2003. However, six native vegetation sites have been monitored on study sites in this allotment since 1988. Monitoring included nested plot frequency and other methods. One of the six native sites was potentially meeting RMP objectives of maintaining good or late seral condition in that situation.

Table 3.3 – Native Range Condition Estimates Based on 2002-2003 Production Data

Allotment Name ¹ and Study Site Number	Similarity Index (percent)	Range Condition (Seral State)	Production (lbs./ac.)
71 Desert Allotment			
71D1	66	Good (Late Seral)	199
71D2	34	Fair (Mid Seral)	155
71D4	31	Fair (Mid Seral)	116
71D7	47	Fair (Mid Seral)	217
Bruneau Hill			
BHP1	37	Fair (Mid Seral)	103
BHPP3	44	Fair (Mid Seral)	113
Cedar Creek			
CDCP6	56	Good (Late Seral)	224
CDCP9	91	Excellent (PNC)	469
CDCP8	57	Good (Late Seral)	624
CDCP10	92	Excellent (PNC)	631
Coonskin AMP			
CSP2	68	Good (Late Seral)	543
CSP5	66	Good (Late Seral)	183
CSP7	77	Excellent (PNC)	289
CSP8	52	Good (Late Seral)	357
East Juniper Draw			
EJ1	68	Good (Late Seral)	311
EJ6	75	Good (Late Seral)	412
EJ7	69	Good (Late Seral)	349
EJ9	58	Good (Late Seral)	274
Flat Top			
FTP4	58	Good (Late Seral)	300
FTP6	57	Good (Late Seral)	327
FTP7	68	Good (Late Seral)	315
Noh Field			
NOH2	54	Good (Late Seral)	146
Pigtail Butte			
PBP5	60	Good (Late Seral)	369
PBP7	39	Fair (Mid Seral)	357
PBP10	54	Good (Late Seral)	519
Three Creek #8			
TC8P2	84	Excellent (PNC)	538
Winter Camp			
WCP2	55	Good (Late Seral)	140
240	63	Good (Late Seral)	240

¹ Antelope Springs, Blackrock Pocket, Brackett Bench, Camas Slough, Crawfish, and Grassy Hills Allotments are not listed in this table because production data were not collected for them in 2002-2003 and no condition estimates were made. Production data were collected for Echo 4 Allotment, but are not listed because it has no native range sites.

The other five native sites were not meeting the RMP objectives to improve poor (early seral) or fair (mid seral) ecological conditions by one condition class. Two rain gauges are representative of conditions on the allotment, one (Cedar Mesa) represents the lower, drier half of the allotment and the other (Monument Springs) represents the higher, wetter half of the allotment. As reported for the Antelope Springs Allotment, the water year precipitation at Cedar Mesa was 86 and 83 percent of the long-term average in 2002 and 2003 while the Monument Spring gauge was 95 percent and 92 percent of average respectively in the two years.

Bruneau Hill

The Bruneau Hill Allotment is located in the central west part of the JFO area, with approximately 76 percent located in MUA 6, 17 percent in MUA 10 and 7 percent in MUA 5. Total Federal acreage is 40,062. The dominant native vegetation type is Wyoming Big Sagebrush/Bluegrass, which makes up the majority of the native vegetation and 24 percent of the total vegetation on the allotment. Crested Wheatgrass stands occupy 39 percent and Annuals occupy 37 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment for the Bruneau Hill Allotment (available for review at the JFO) where the production figures of both seeded and native stands are used to determine the level of proposed AUMs. The water year precipitation at the Pothole rain gauge on the allotment collected 72 percent of the long-term average in 2002 and 77 percent of average in 2003. The lower than average precipitation is, at least in part, responsible for the low production.

This production sampling also determined range or ecological site condition. Two sites were sampled within the allotment. One was located in Wyoming Big Sagebrush/Thurber's Needlegrass vegetation on Loamy 8-10" Ecological Site and the other was located in Wyoming Big Sagebrush/Bluebunch Wheatgrass-Thurber's Fescue vegetation on a Loamy 10-12" site. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

Camas Slough

The Camas Slough Allotment is located in the southeast part of the JFO area. All of the allotment is located in MUA 12. The total Federal acreage is 1,606. The dominant native vegetation type is Bluebunch Wheatgrass which occupies 67 percent of the vegetation occurring on Federal land in the allotment. The Wyoming big sagebrush normally associated with bluebunch wheatgrass has been burned off by wildfire. No Crested Wheatgrass stands occur on the allotment.

No vegetation production or range condition information was collected on this allotment in 2002 and 2003. One rain gauge (Heil Reservoir) is representative of conditions on the allotment and the water year precipitation was 57 percent and 69 percent of the long term average in 2002 and 2003 respectively at this gauge.

Cedar Creek

The Cedar Creek Allotment is located in the southeast part of the JFO area, and is entirely within in MUA 15. Total Federal acreage is 24,945. The dominant native vegetation type is Mountain Big Sagebrush, which makes up 45 percent of the total vegetation on the allotment. Crested Wheatgrass stands occupy 12 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment for the Cedar Creek Allotment (available for review at the JFO) where the production figures of both seeded and native stands are used to determine the level of proposed AUMs. The water year precipitation at two rain gauges is representative of conditions on the allotment. One (Heil Reservoir) represents the lower, drier half of the allotment and the other (Monument Springs) represents the higher, wetter half of the allotment. The water year precipitation at Heil Reservoir was 57 and 69 percent of the long-term average precipitation in 2002 and 2003 respectively while the Monument Spring gauge was 95 percent and 92 percent of average respectively in the two years.

This production sampling also determined range or ecological site condition. Four sites were sampled within the allotment. Two sites (CDCP6 and CDCP9) were located in Low

Sagebrush/Bluebunch Wheatgrass-Idaho Fescue vegetation on Shallow Claypan 12-16" 7-10" Ecological Site. One site (CDCP8) was in a Wyoming Big Sagebrush/Bluebunch Wheatgrass vegetation on a Loamy 11-13" Ecological Site and one (CDCP10) was in Mountain Big Sagebrush/Idaho Fescue vegetation on a Loamy 16+" Ecological Site. The results are shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002-03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

Coonskin AMP

The Coonskin AMP Allotment is located in the southeast part of the JFO area, and is entirely within in MUA 12. Total Federal acreage is 41,034. The dominant native vegetation type is Wyoming Big Sagebrush/Thurber's Needlegrass, which makes up 67 percent of the total vegetation on Federal acres on the allotment. Crested and Intermediate Wheatgrass stands occupy 4 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment for the Coonskin AMP Allotment (available for review at the JFO) where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. Two rain gauges are representative of conditions on the allotment. One (Big Hill) represents the lower, drier half of the allotment and the other (Cedar Mesa) represents the higher, wetter half of the allotment. The water year precipitation at Cedar Mesa was 86 and 83 percent of the long-term average in 2002 and 2003 while the Big Hill gauge was 98 percent and 95 percent of average respectively in the two years.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

Crawfish

The Crawfish Allotment is located in the southwest part of the JFO area and is located primarily in MUA 11. The total Federal acreage

is 10,423. The dominant native vegetation types are Wyoming Big Sagebrush/Bluebunch Wheatgrass, which occupies 37 percent and Bluebunch Wheatgrass which occupies 28 percent of the vegetation occurring on Federal land in the allotment. No Crested Wheatgrass stands occur on the allotment.

No vegetation production or range condition information was collected on this allotment in 2002 and 2003. At one rain gauge representative of conditions on the allotment (Three Creek Well), the water year precipitation was 75 percent and 91 percent of the long-term average in 2002 and 2003.

East Juniper Draw

The East Juniper Draw Allotment is located in the southeast part of the JFO area, and is in MUA 12. Total Federal acreage is 20,704. The dominant native vegetation type is Wyoming Big Sagebrush/Thurber's Needlegrass, which makes up 50 percent of the total vegetation on Federal acres and almost all of the native range on the allotment. Crested Wheatgrass stands occupy 39 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Cedar Mesa) is representative of conditions on the allotment. The water year precipitation was 86 and 83 percent of the long-term average in 2002 and 2003 respectively.

This production sampling also determined range or ecological site condition. Four sites were sampled within the allotment, all in Wyoming Big Sagebrush/Thurber's Needlegrass vegetation. Three sites were on Loamy 8-10" Ecological Sites and one site (EJ9) was on Loamy 7-10" Ecological Site. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

Echo 4

The Echo Allotment is located in the central part of the JFO area, and is in MUA 7. Total Federal acreage is 16,599. The dominant vegetation type managed as native range is Wyoming Big Sagebrush/Crested Wheatgrass, which occupies 27 percent of the total vegetation on Federal acres on the allotment. Crested Wheatgrass stands occupy 66 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Big Hill) is representative of conditions on the allotment. The water year precipitation was 102 percent and 89 percent of the long-term average in 2002 and 2003 respectively.

No range condition information was available based on the vegetation production information collected in 2002-2003.

A determination was made on December 20, 1999 that this allotment met Idaho State Standards for Rangeland Health for Standards 1 and 4 and did not meet Standards # 5 and 8. Current livestock management practices were found not to be a factor in failing to meet these Standards. Standards 2, 3, 6, and 7 were not applicable (Table 3.2). Please refer to the Allotment Assessment for an in-depth discussion of the S&G review. The Allotment Assessments are on file with the JFO.

Flat Top

The Flat Top Allotment is located in the northwest part of the JFO area, of which 98 percent is in MUA6 and 2 percent is in MUA 10. Total Federal acreage is 34,818. The dominant native vegetation type is Wyoming Big Sagebrush/Bluegrass, which makes up 47 percent of the total vegetation on Federal acres on the allotment. Crested Wheatgrass stands occupy 47 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of

both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Big Draw) is representative of conditions on the allotment. The water year precipitation was 79 and 68 percent of the long-term average in 2002 and 2003, which, in part, may explain the somewhat low production.

This production sampling also determined range or ecological site condition. Three sites were sampled within the allotment, all in Wyoming Big Sagebrush/Thurber's Needlegrass vegetation on Loamy 8-10" Ecological Sites. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

A determination was made on November 26, 1999 that not all applicable Standards for Rangeland Health were met. Standard 1 for Watershed is met. Standard 2 and 3 do not apply because cattle do not have access to Clover Creek. Standard 4 (Native Plant Communities) is not met and livestock grazing is an important factor. Standard 5 for Seeded Rangelands was not being met, but livestock were found not to be an important factor. Standards 6 and 7 do not apply to the Allotment. Standard 8 for Special Status Plant and Animal species is not met and livestock were found to be an important factor. (Table 3.2). Please refer to the Allotment Assessment for an in-depth discussion of the S&G review. The Allotment Assessments are on file with the JFO.

Grassy Hills

The Grassy Hills Allotment is located in the southeast part of the JFO area, and is in MUA 12. Total Federal acreage is 4,907. The dominant native vegetation type is Wyoming Big Sagebrush/Bluebunch Wheatgrass, which occupies 94 percent of the total vegetation on Federal acres on the allotment. There are no Crested Wheatgrass stands on the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for

the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Heil Reservoir) is representative of conditions on the allotment. The water year precipitation was 56 percent and 69 percent of the long term average in 2002 and 2003 respectively.

No range condition information was available based on the vegetation production information collected in 2002-2003.

Noh Field

The Noh Field Allotment is located in the central east part of the JFO area, of which 80 percent is in MUA7 and 20 percent is in MUA 12. Total Federal acreage is 6,122. The dominant native vegetation types are Bluegrass, which occupies 23 percent and Wyoming Big Sagebrush/Bluegrass which makes up 17 percent of the total vegetation on Federal acres on the allotment. Crested Wheatgrass stands occupy 54 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Big Hill) is representative of conditions on the allotment. The water year precipitation was 98 and 85 percent of the long-term average in 2002 and 2003, respectively.

This production sampling also determined range or ecological site condition. One site was sampled in the allotment in Wyoming Big Sagebrush/Thurber's Needlegrass vegetation on a Loamy 8-10" Ecological Site. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

North Fork Field

The North Fork Field Allotment is located in the southeast part of the JFO area and is in MUA 15. The total Federal acreage is 3,354. The dominant native vegetation types are Low Sagebrush which occupies 51 percent and Mountain Brush which occupies 31 percent of the vegetation occurring on Federal land in the allotment. No Crested Wheatgrass stands occur on the allotment.

No vegetation production or range condition information was collected on this allotment in 2002 and 2003. However, two native vegetation sites have been monitored on study sites in this allotment since 1987. Monitoring has included nested plot frequency and other methods. Both sites are meeting the RMP objective for maintaining native plant communities in Excellent (Potential Natural Community) condition. For the one rain gauge (Monument Spring) representative of conditions on the allotment, the water year precipitation was 95 percent and 92 percent of the long-term average in 2002 and 2003 respectively.

Pigtail Butte

The Pigtail Butte Allotment is located in the southeast part of the JFO area, of which 79 percent is in MUA13 and 21 percent is in MUA 15. Total Federal acreage is 28,576. The dominant native vegetation type is Wyoming Big Sagebrush/Bluegrass, which makes up 33 percent of the total vegetation on Federal acres on the allotment. Crested Wheatgrass stands occupy 21 percent and Wyoming Big Sagebrush/Crested Wheatgrass occupy an additional 18 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. Two rain gauges are representative of conditions on the allotment. One (Cedar Mesa) is representative of the lower northern portions of the allotment, and Heil Reservoir represents the higher, southern portions. The water year precipitation was 86 and 83 percent of the long term average at Cedar Mesa and 57 and 69 percent at Heil Reservoir in 2002 and 2003, respectively.

The production sampling also determined range or ecological site condition. Three sites were sampled within the allotment, all in Wyoming Big Sagebrush/Bluebunch Wheatgrass-Thurber's Needlegrass vegetation on Loamy 10-12" Ecological Sites. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

Three Creek #8

The Three Creek #8 Allotment is located in the southern part of the JFO area, of which 85 percent is in MUA15 and 15 percent is in MUA 12. Total Federal acreage is 4,786. The dominant native vegetation types are Mountain Big Sagebrush, which makes up 35 percent and Wyoming Big Sagebrush/Bluebunch Wheatgrass which makes up 44 percent of the total vegetation on Federal acres on the allotment. Intermediate and Crested Wheatgrass stands occupy 20 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (BLM Three Creek School) is representative of conditions on the allotment. The water year precipitation was 86 and 99 percent of the long-term average in 2002 and 2003 respectively.

The production sampling also determined range or ecological site condition. One site was sampled in the allotment, all in Mountain Big Sagebrush/Bluebunch Wheatgrass-Idaho Fescue vegetation on a Loamy 13-16" Ecological Site. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

Winter Camp

The Winter Camp Allotment is located in the central west part of the JFO area, of which 35 percent is in MUA 1, 35 percent in MUA 7, 28 percent in MUA 10 and 2 percent is in MUA 6. Total Federal acreage is 11,856. The dominant native vegetation type is Wyoming Big Sagebrush/Bluegrass, which makes up 55 percent of the total vegetation on Federal acres on the allotment. Crested Wheatgrass stands occupy 39 percent of the allotment.

Vegetation production information was collected on the allotment in 2002 and 2003. The results of this sampling are summarized in Table 3.3 and also reported in Appendix I of the Allotment Assessment (available for review at the JFO) for the allotment where the production figures of both seeded and native stands are used to determine the proposed level of AUMs. One rain gauge (Big Draw) is representative of conditions on the allotment. The water year precipitation was 79 and 68 percent of the long-term average in 2002 and 2003 respectively, which, in part, may explain the somewhat low production.

The production sampling also determined range or ecological site condition. Two sites were sampled within the allotment, all in Wyoming Big Sagebrush/Thurber's Needlegrass vegetation on Loamy 8-10" Ecological Sites. The results shown in Table 3.3 use percentage composition of the sites sampled compared with the percentage composition in the reference community (PNC or Excellent Condition) listed in the Ecological Site Guide.

The 2002/03 results indicate an apparent improvement of condition (seral state) compared to the 1981-83 sampling in this allotment.

3.4 Special Status Plant Species

Section 7 of the ESA specifically requires all federal agencies to use their authorities (1) to carry out programs for the conservation of listed species and (b) to ensure that no agency action is likely to jeopardize the continued existence of a listed species or adversely modify critical

habitat. The BLM has established specific protocols to address any T&E, candidate, or sensitive species (Jarbidge Resource Management Plan 1987, pages II-82). Species not expected to occur in the study area are excluded from further discussion in this EA.

3.4.1 Threatened and Endangered Plant Species

There are currently no known occurrences of plant species that are listed as threatened or endangered on BLM-administered lands in the study area. The December 2003 90-Day Species List Update (1-4-04-SP-093) for those Federally listed or proposed to be listed species which may occur in the Jarbidge Field Office area lists only slickspot peppergrass (*Lepidium papilliferum*).

In 1999, the USFWS published findings indicating slickspot peppergrass warranted protection under the ESA. On January 16th, 2004 this species was withdrawn. Slickspot peppergrass is now considered a BLM sensitive species. BLM has a Candidate Conservation Agreement (CCA) with the USFWS on how to manage rangeland for this species. Habitat and threats to the species are further described within this section. No known occurrences of this species have been reported, however, suitable habitat is known to occur within the project allotments.

The BLM JFO, Idaho Conservation Data Center (CDC), and the Nevada Natural Heritage Program (NNHP) prepared a list of species of special concern known or suspected to occur within the study area. The Idaho Conservation Data Center tracks species of special concern using elemental occurrences (EOs). An EO corresponds with the local population, a portion of a population or an aggregation of populations (i.e. metapopulations). The CDC prepared a map showing polygons of special status plant species within the study area (Figure C.1, Appendix C). Polygons represent actual occurrences of plants.

3.4.2 Special Status - Sensitive Plant Species

There are nine (9) Idaho BLM special status plant species known or suspected to occur within the study area, and one (1) Nevada BLM sensitive plant species suspected to occur within

the study area. The CDC query of plant species also identified seven (7) species of concern known to occur in adjacent or neighboring allotments (Table 3.4). These species have a probability of occurring in the study area. BLM categorizes sensitive species using five categories:

1. Type 1, Federally Listed, Proposed and Candidate Species
2. Type 2, Rangeland/Globally Imperiled Species, High Endangerment
3. Rangeland/Globally Imperiled Species, Moderate Endangerment
4. Type 4, Generally Rare in Idaho with Currently Endangerment Threats
5. Type 5, Watch List.

For the most part, limited surveys have been conducted for sensitive plant species within the study area and more species may occur. Sensitive species occurrences are frequently observed from incidental observations. Slickspot peppergrass is not known to occur within the study area; however suitable habitat acreage is defined by allotment. There is no information available to determine whether livestock grazing is having an impact on sensitive plant species or not, with the exception of Antelope springs, Bracket Bench and North Fork Field Allotment where impacts from livestock have either been described as “slight” or they have not been reported or observed at some of the plant locations.

Currently there are no known occurrences of slickspot peppergrass within the study area (Figure C.1, Appendix C). However, suitable habitats (acreages) have been identified within the allotments and are listed in Table 3.4. The study area represents a total of 656,991 acres of BLM managed lands. Of this total, 91,439 acres, or 14 percent, are considered suitable habitat for slickspot peppergrass. Surveys for slickspot peppergrass in the project area were in portions of the Crawfish and the 71 Desert allotments. With the exception of these detailed surveys conducted in October 2003, by Vision Air Research, limited surveys for this species have not confirmed or denied occurrence of slickspot peppergrass.

Slickspot peppergrass (BLM Type 2) is a small annual/biennial plant species endemic to the sagebrush-steppe ecosystem of southwestern Idaho. Plant communities containing slickspot

peppergrass habitat generally fall into Wyoming big sagebrush (*Artemisia tridentata wyomingensis*)-series. This small forb is restricted to small-scale, scarcely vegetated, visually distinct, edaphically-determined openings within the sagebrush matrix. All occurrences of slickspot peppergrass occur on or adjacent to extensive volcanic plains, mostly the Snake River Plain, and one site on the Owyhee Plateau. This small forb occurs in “mini-playas” or small depositional areas characterized by clay and a salt enriched surface horizon. The abundance of slickspot peppergrass is known to fluctuate greatly from year to year, a common pattern for many short-lived plants growing in arid environments (Mancuso 2000).

Threats to this species include fragmentation and loss of habitat through conversion of the sagebrush communities to agriculture, frequent fires and the overall decline in the ecological condition of sagebrush – steppe communities. Ground disturbing activities adversely affecting slickspot integrity diminish the suitability of microsites to support slickspot peppergrass. More specifically, direct affects of livestock grazing to slickspot peppergrass and/or slickspot peppergrass habitat are primarily trampling of slickspots which causes plant mortality, degrades the seed banks, disturbs the soils structure and reduces the slickspot integrity. The actual grazing or palatability of slickspot peppergrass by cattle is generally limited. Slickspot peppergrass seed bank generally survives minor disturbances associated with limited grazing and the slick spot microsites reform and the populations appear to persist (Meyers 1993). However, repeated or extensive ground disturbance in slickspots may impact slickspot peppergrass and allows non-native annual plants to establish which compete with or displaces slickspot peppergrass and causes soil compaction. In many cases slickspot peppergrass populations decline or are extirpated after the natural community is replaced by annuals (Meyers 1993; Meyer and Quiney 1993). Cheatgrass (*Bromus tectorum*) which is an introduced annual, increases fire frequencies by creating a more continuous fuelbed. More-frequent fires and reduced patchiness prevents, or greatly retards, normal vegetation succession. Occasionally, on marginal sites, cheatgrass and other annuals such as clasping pepperweed (*Lepidium perfoliatum*), may limit or otherwise out compete slickspot.

Other direct impacts may result from livestock crushing or causing damage to the plant. Previous observations by surveyors have implied a negative correlation between ground disturbance and slickspot peppergrass occurrence condition (Popovich 2000 and 2001). Mancuso (2001) reported trampling by livestock to be one of the main disturbances to slickspot microsites. Slickspot peppergrass has been shown to disappear from occupied habitat, especially when grazed during periods of high soil moisture (Moseley 1994). Slickspots can be degraded by loss of boundary integrity, soil compaction, and increased organic debris. Meyers (1993) found that slickspots are characterized by reduced levels of organic matter and bound nutrients as a consequence of lower biomass production relative to the surrounding shrubland vegetation. Indirect affects of livestock grazing and associated practices such as salting, water troughs, fence maintenance, pipelines, and access roads include increases in exotic plant invasion, and habitat degradation of slickspots and the surrounding sagebrush-steppe landscape. Further degradation can result in increased invasion of exotic annuals, which increases fire frequency and decreases native forbs. Loss of forbs and trampling of pollinator ground nesting sites by livestock causes a decline in pollinators, which decreases viable seed formation in slickspot peppergrass, since insects are critical for seed production (Robertson, 2002).

Davis peppergrass (*Lepidium davisii*, BLM Type 3) is a long-lived, deep-rooted perennial with a low compact growth form commonly referred to as a clump or cushion. This forb is a regional endemic restricted mainly to Ada, Elmore and Owyhee counties, small parts of Twin Falls County, Idaho. The species habitat is flat, barren, internally drained, seasonally flooded, hard floors of playas between 2,500 and 5,000-foot elevations. Waterfowl are partly responsible for seed dispersal (Croft et al., 1997). Compacted soils and invasion of exotic species within playas create unsuitable habitat for this species. Livestock grazing may affect Davis peppergrass through trampling and compaction of the playas, which may extirpate populations (Bernatas and Mosely 1991). Degradation of the surrounding habitat can result in increased invasion of exotic annuals, which increases fire frequency and sedimentation into the playas. Increased sedimentation resulting from the degradation of the adjacent environment may contribute to the decline of this species (Croft et.

al., 1997). Also decline in population numbers may also be related to the drought (Bernatas, S. and R. K. Mosely 1991). Other threats associated with disturbance are the developments of stock water ponds within playas, OHV use and increased erosion or sedimentation into playas.

Spine-node milkvetch (*Peteria thompsoniae*, BLM Type 4) is a perennial forb that produces new shoots from a rhizomatous root system and buried caudex in the spring. Flowering for spine-node milkvetch occurs in May and June. Spine-node milkvetch occurs in disjunct populations on barren areas with thin cinder soils or slopes in desert shrub communities in dry washes, flats, ridges and talus. Populations are restricted to volcanic sands. Associated plant species include purple sage (*Salvia dorrii*), shadscale (*Atriplex confertifolia*) and annual buckwheat (*Eriogonum* spp.). This forb is known within the salt desert shrub plant community at elevations in Idaho from 2,600 to 3,200 feet. DeBolt and Rosentreter (1988) identified off-road vehicle use, and concentrated grazing in riparian areas as threats to this species.

Rigid threadbush (*Nemacladus rigidus*, BLM Type 4) is a small compact annual forb less than 5 inches tall. Flowering is generally May and June. This forb is found on loose, sandy washes, cindery or ashy outcrops, cracks in basalt, or in dried mud. This forb is known to the shadscale-sagebrush zone at elevations from 3,700 to 6,500 feet. Identified threats for rigid threadbush include off-road vehicles and range improvement programs.

Spreading gilia (*Ipomopsis polycladon*, BLM Type 3) is a short annual forb reaching a height of 4 to 8 (rarely) inches. Flowering is from late April to June. This plant occurs in dry, open areas in the desert shrub communities of shadscale, horsebrush (*Tetradymia* spp.), and sagebrush on sandy to silty soils. This forb is known from elevations of 2,400 to 4,500 feet. No threats have been identified for this species.

Snake River milkvetch (*Astragalus purshii* var. *ophiogenes*, BLM Type 5) is a perennial which occupies a number of different soils including sands, gravel-sandy bluffs, talus, dunes, and volcanic ash beds. This forb often occurs on barren sites within big sagebrush, Indian ricegrass (*Oryzopsis hymenoides*), needle-and-thread grass, (*Stipa comata*) and fourwing

saltbush (*Atriplex canescens*) communities at elevations from 2,100 to 3,250 feet. Impacts from livestock may include direct mortality due to trampling, and degradation of habitat. Other threats include off highway vehicle use, range improvement projects and livestock trailing.

White-margined wax plant (*Glyptopleura marginata*, BLM Type 4) is a small tufted winter annual, flowering from April to June. This species occurs on dry, sandy-gravelly or loose ash soils that are typically sparsely vegetated on ridges and at the edge of upland benches. White-margined waxplant is tolerant to some extent to alkaline soil conditions. Southern Idaho is the northern extension of its geographic range. This forb often occurs within shadscale, greasewood (*Sarcobatus vermiculatus*), rabbitbrush, winterfat (*Ceratoides lanata*), and sagebrush communities from 2,400 to 3,600 feet. Identified threats to this species include off-road vehicles and range improvements programs.

Greeley's wavewing (*Cymopterus acaulis* var. *greeleyorum*, BLM Type 3) is a low-growing perennial which flowers from March to May. By mid-summer the plants are dormant, and the foliage has dried out. This plant occupies sites which undergo a lot of soil movement, such as sandy soil, brown and white volcanic ash. The sand is loosely held together, while the deposits that have weathered clay shrink and swell greatly. This plant is known to occur within Wyoming big sagebrush, desert shrub, and Indian ricegrass zones. Impacts from livestock may include direct mortality due to trampling, and degradation of habitat. Other threats may include off highway vehicle use.

Simpson's hedgehog cactus (*Pediocactus simpsonii*, BLM Type 5) is a small barrel cactus found primarily on gravelly soils in low sagebrush/Idaho fescue plant communities. Threats to this species are primarily from collection of plants from the wild, but fire, habitat degradation, and trampling from livestock also impact this species.

Broadleaf fleabane (*Erigeron latus*, BLM Special Status Species in Nevada) is a low growing perennial forb flowering in June and July. This species prefers shallow, relatively barren, vernal saturated, otherwise dry, gravely to sandy soils or bedrock on flats and slopes of volcanic scablands or benches. Composition is mostly rhyolitic or basaltic in composition, in the

sagebrush steppe and juniper zones with low sagebrush (*Artemisia arbuscula*) and big sagebrush (6,200 – 6,450 feet elevation). Livestock grazing does not directly threaten this species, but habitat destruction by related roads and water developments has occurred to a small degree.

3.4.3 Special Status Plant Species by Allotment

71 Desert

Two plants presently classified as sensitive are known within this allotment (Simpson's hedgehog and Davis peppergrass). Other playas within this allotment offer potential habitat for Davis peppergrass. Numerous unoccupied slickspot habitats (467) were found in the surveyed portion of this allotment (2003 Vision Air Research).

Antelope Springs

The only plant species on the Idaho BLM sensitive species known to occur in this allotment is Simpson's hedgehog cactus.

Bracket Bench

The only plant species on the Idaho BLM sensitive species known to occur in this allotment is Simpson's hedgehog cactus.

Bruneau Hill

Six plants presently on the BLM sensitive plant species list are known to occur in this allotment. Playas within this allotment offer suitable habitat for Davis peppergrass.

Crawfish

Sixty seven (67) unoccupied slickspots were identified during a detailed survey of a portion of this allotment in 2003 by Vision Air Research.

North Fork Field

The only sensitive BLM plant species known to occur in this allotment is Simpson hedgehog cactus.

Three Creek #8

Broad fleabane is known to occur just north of the Nevada State Line and is expected to occur in the Nevada portion of the allotment.

Winter Camp

One BLM sensitive plant species is known to occur in this allotment, Davis Peppergrass.

Other playas within this allotment offer suitable habitat for this sensitive plant species.

Additional plants listed by CDC (2003) which have the potential to occur within the Project are presented in Table 3.5.

3.5 Invasive and Noxious Weeds

Noxious and invasive weeds are an increasing problem on BLM Idaho rangelands. There are approximately 300 weed species that occur throughout Idaho (Prather et al. 2002). Noxious and invasive weeds rapidly displace desirable plants that provide forage for livestock, habitat for wildlife, decrease recreational enjoyment, and alter historic wildfire regimes. Some weeds are poisonous to wildlife, livestock, and people. Noxious and invasive weeds are plants that are not native to Idaho vegetation and were introduced accidentally or intentionally. Noxious weeds are listed by state and federal law and are generally considered those that are exotics and negatively impact agriculture, navigation, fish, wildlife, or public health (Howery and Ruyle 2002). There are 36 weed species designated noxious by Idaho law as of 2001. Ten of Idaho's 36 noxious weeds occur in the grazing allotments (Table 3.6 and Figure 3.3). Noxious weed dominance in the surrounding plant communities is relatively minor but through inappropriate grazing management and wildfire their dominance could increase substantially (Table 3.7).

However, there are other invasive weeds such as cheatgrass (*Bromus tectorum*) that are not listed as noxious but can still be problematic on Idaho rangelands and the 18 grazing allotments. These plants are considered invasive weeds because they displace and reduce the normal composition and productivity of native rangeland vegetation. In addition, they may raise the risk of wildland fire because of increased flammability, altered fire return frequency, and biomass accumulation in rangeland vegetation communities. Annual grasslands, mainly dominated with cheatgrass, are a particular concern in the 18 grazing allotments because of reduced forage productivity, increased wildfire risk, and its ability to rapidly expand into disturbed areas. Annual grassland occurs on approximately 22,625 acres, which is almost 6 percent of the

total allotment acreage (Table 3.8 and Figure 3.2).

3.6 Fire Ecology

Prior to European settlement, fire was a common and widespread influence on many landscapes in southwest Idaho. Many of these fires were caused naturally from lightening but some were also started purposefully by Native Americans for hunting and warfare. The historic fire regime of southwest Idaho rangelands varied in frequency and severity depending on many factors such as vegetation type, climate, and topography (Figure 3.4). The historic fire regimes for the JFO are varied from low intensity fire with a return frequency of 0-35 years to stand replacement fire with a return frequency of 25 to >100 years. Wildfire in the different vegetation communities found on BLM land was a normal occurrence and helped define species composition, structure, and standing biomass. As such, many forage plants are adapted to withstand wildfire through a variety of anatomical or physiological mechanisms to persist with frequent fire.

Figure 3.5 illustrates the 50-year fire history of the grazing allotments and surrounding rangeland. Noteworthy is the widespread and frequent occurrence of fire within the grazing allotments and the surrounding rangeland (Table 3.9). Looking at the past 50 years, 44 percent of the grazing allotments have been burned at least once and 17 percent have had multiple fires. The historic nature of wildfire in southwest Idaho changed with the onset of European settlement. As such, current-day fire regimes for many vegetation communities have changed in comparison with historic patterns (Figure 3.4). Livestock grazing and land cultivation caused fuel loads (i.e., the amount of live and dead vegetation) to be reduced and fragmented into smaller landscape units. Furthermore, the fire management practices for the past 100 years that included organized fire suppression with post-fire rehabilitation using non-native plant species has resulted in changes to the character of many vegetation communities in species composition, structure, and standing biomass. The large expanse of Crested Wheatgrass in some allotments resulted from it being seeded after fire to reduce soil erosion, improve forage for grazing, and inhibit the establishment of cheatgrass (Figure 3.1). In other areas,

cheatgrass has become established in the grazing allotments as a result of improper grazing practices or other occurrence that have disrupted the native plant community and allowed it to invade. Cheatgrass as fuel is a particular concern to fire management because it may raise the risk of fire through increased flammability and increased fire frequency and intensity in comparison with native vegetation. The establishment of cheatgrass into new areas may, in part, result from fire if more desirable range vegetation does not become established quickly. Thus, the justification for the seeding of Crested Wheatgrass. In contrast, Crested Wheatgrass is considerably less flammable and more desirable forage than cheatgrass.

Table 3.4 - BLM Special Status Plant Species for Each Grazing Allotment

Species Common Name	Status	Presence	Populations ¹	No known locations of BLM sensitive species occur in this allotment	Suitable habitat (acreage) for Slickspot peppergrass/ Number of slickspots ²
71 Desert					
Simpson's hedgehog cactus	Sensitive	Confirmed	7		
Davis peppergrass	Sensitive	Confirmed	6		
Slickspot peppergrass	Sensitive	Likely			10,000/467
Antelope Springs					
Simpson's hedgehog cactus	Sensitive	Confirmed	14		
Slickspot peppergrass	Sensitive	Likely			2711
Black Rock Pocket				X	
Bracket Bench					
Simpson's hedgehog cactus	Sensitive	Confirmed	7		
Slickspot peppergrass	Sensitive	Likely			52
Bruneau Hill					
Spine-node milkvetch	Sensitive	Confirmed	12		
Snake river milkvetch	Sensitive	Confirmed	3		
Greeley's wave-wing	Sensitive	Confirmed	8		
Rigid threadbush	Sensitive	Confirmed	2		
Spreading gilia	Sensitive	Confirmed	6		
White-margin waxplant	Sensitive	Confirmed	2		
Slickspot peppergrass	Sensitive	Likely			7465
Camas Slough				X	
Cedar Creek					
Slickspot peppergrass	Sensitive	Likely			482
Coonskin AMP					
Slickspot peppergrass	Sensitive	Likely			31,835
Crawfish					
Slickspot peppergrass	Sensitive	Historically present			2647 / 67 ⁴
East Juniper Draw					
Slickspot peppergrass	Sensitive	Likely			8,847

Table 3.4 (continued)

Echo 4					
Slickspot peppergrass	Sensitive	Likely			12,829
Flat Top					
Slickspot peppergrass	Sensitive	Likely			5,628
Grassy Hills					
Slickspot peppergrass	Sensitive	Likely			11,000
Noh Field					
Slickspot peppergrass	Sensitive	Likely			1,600
North Fork Field					
Simpson's hedgehog cactus	Sensitive	Confirmed	25		
Pigtail Butte					
Slickspot peppergrass	Sensitive	Likely			1,686
Three Creek #8					
Slickspot peppergrass	Sensitive	Likely			16
Broadleaf fleabane	Sensitive	Likely			
Winter Camp					
Davis peppergrass	Sensitive	Confirmed	2		
Slickspot peppergrass	Sensitive	Likely			4,641

¹ Population data from Idaho Conservation Data Center and BLM field surveys.

² Surveys conducted by Vision Air Research, October 2003, unoccupied slickspot habitat.

Table 3.5 - BLM Sensitive Species with Potential to Occur within the Study Area

Species	Status	Habitat	Known Distribution Adjacent to the Study Area
Two-headed onion (<i>Allium anceps</i>)	BLM type 3	Heavy soils of volcanic origin or seasonally wet playas or rocky soils in sagebrush zones	East of Salmon Falls Creek Reservoir
Newberry milkvetch (<i>Astragalus newberryi</i> var. <i>castoreus</i>)	BLM type 4	Chalky hills and lakebeds, lacustrine sediments. Clay to silt soils within sagebrush habitat	South of Rogerson
Giant helleborine (<i>Epipactis gigantea</i>)	USFS Region 1 Sensitive, BLM type 3	Moist areas along stream banks, at lower elevations along the Snake River	North of the Bruneau Hill allotment along the Bruneau River
Alkali cleomella (<i>Cleomella plocasperma</i>)	BLM type 3	Dry saline meadows, alkaline meadows, greasewood flats and around thermal springs from 2,400 to 4,200 ft.	SE of Bruneau at Hot Spring, on edge of saltgrass meadow
Packard's buckwheat (<i>Eriogonum shockleyi</i> var. <i>packardiae</i>)	BLM type 3	Oolitic limestone outcrops, snady loess over basalt, and lacustrine deposits consisting of cobbly desert pavement overlying a sandy-substrate.	South of Bruneau, near Devils bathtub (Indian bathtub)
Bruneau River prickly-phlox (<i>Leptodactylon glabrum</i>)	BLM type 3	Vertical or underhanging rhyolitic canyon walls along the Bruneau and Jarbidge rivers	Along the Bruneau River adjacent to allotments Bruneau Hill and 71 Desert.
Janish's penstemon (<i>Penstemon janishiae</i>)	BLM type 3	Clay soils derived from volcanic ash or lake bed sediment in sagebrush habitat 2,400 to 3,900 ft	SE of Bruneau Hill, sandy bluffs SW of Hot Spring.

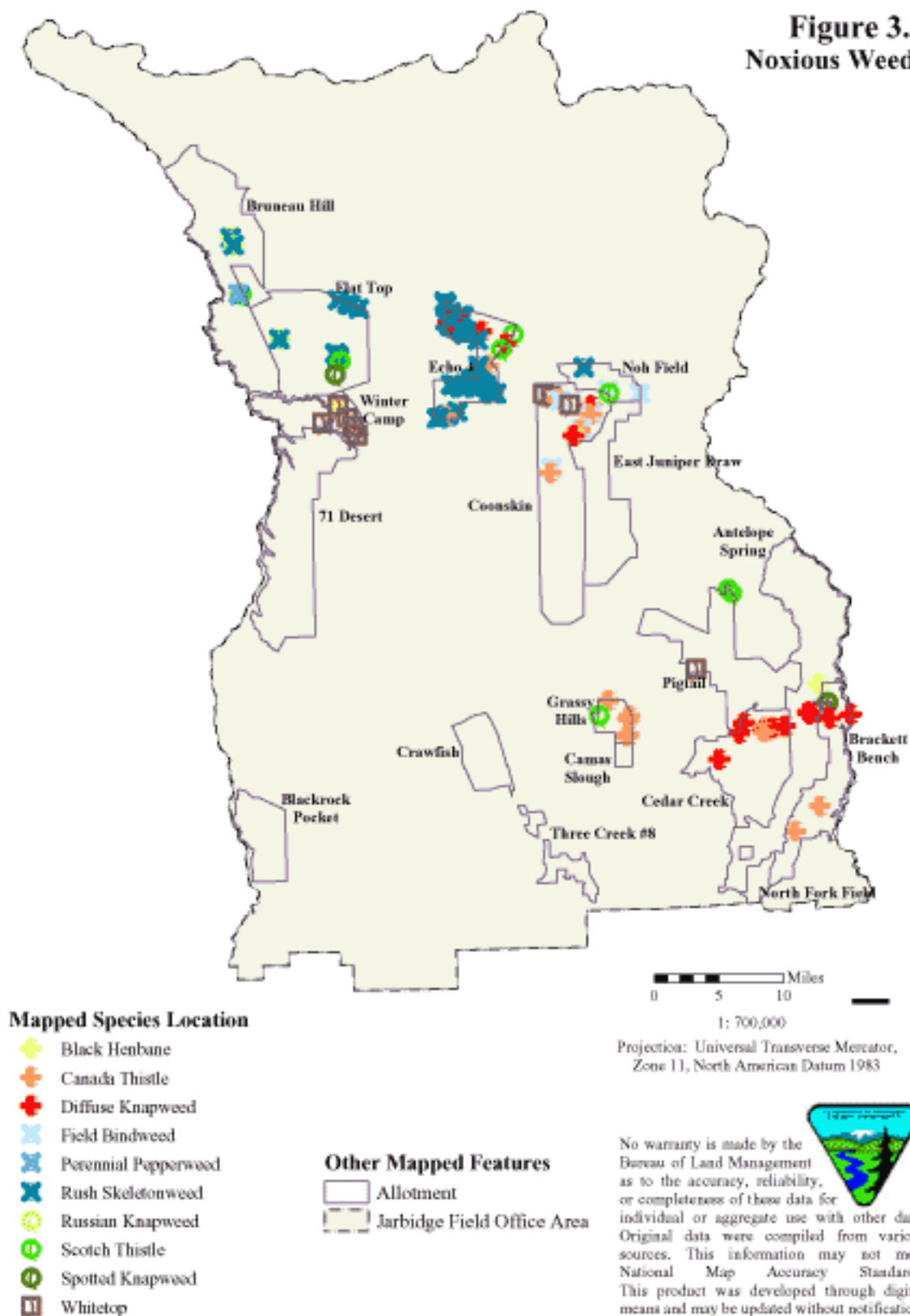
Table 3.6 - Idaho Noxious Weeds that Occur in the 18 Grazing Allotments

Scientific Name	Common Name	Growth Habit	Habitat	Potential Affect on Livestock Grazing
<i>Acroptilon repens</i>	Russian knapweed	Perennial forb	Variety of ecological conditions	Chewing disease in horses
<i>Cardaria draba</i>	White top or hoary cress	Perennial forb	Variety of ecological conditions	Competition with desirable forage
<i>Centaurea diffusa</i>	Diffuse knapweed	Annual, biennial, or short-lived perennial forb	Variety of ecological conditions	Competition with desirable forage
<i>Centaurea maculosa</i>	Spotted knapweed	Biennial or short-lived perennial forb	Variety of ecological conditions	Competition with desirable forage
<i>Chondrilla juncea</i>	Rush skeletonweed	Perennial forb	Well drained light soils	Competition with desirable forage
<i>Cirsium arvense</i>	Canada thistle	Perennial forb	Variety of ecological conditions	Competition with desirable forage
<i>Convolvus arvensis</i>	Field bindweed	Perennial vine	Variety of ecological conditions	Competition with desirable forage
<i>Hyoscyamus niger</i>	Black henbane	Annual or biennial forb	Variety of ecological conditions	Narcotic and poisonous
<i>Lepidium latifolium</i>	Perennial pepperweed	Perennial forb	Variety of ecological conditions	Competition with desirable forage
<i>Onopordum acanthium</i>	Scotch thistle	Biennial forb	Moist sites	Competition with desirable forage

Table 3.7 - Noxious Weed Dominance by Grazing Allotments

Allotment	Approximate Acres of Noxious Weeds									
	Black henbane	Canada thistle	Diffuse knapweed	Field Bindweed	Perennial Pepperweed	Rush skeletonweed	Russian knapweed	Scotch thistle	Spotted knapweed	Whitetop
Antelope Spring	0.1	0	0	0	0	0	0	0	0	0
Blackrock Pocket	0	0	0	0	0	0	0	0	0	0
Brackett Bench	0	2	0	0	0	0	0	0	0	1.0
Bruneau Hill	1.0	0	0	0	1.0	3.0	1.0	1.0	0	0
Camas Slough	0	0	0	0	0	0	0	0	0	0
Cedar Creek	0	0	1.0	0	0	0	0	0	0	0
Coonskin AMP	0	0.4	1.1	1.3	0	0	1.0	0	0	3.0
Crawfish	0	0	0	0	0	0	0	0	0	0
East Juniper Draw	0	0	0	0	0	0	0	0	0	0
Echo 4	0	1.1	2.2	0	0	40.0	0	1.1	0	0
Flat Top	0	0	0	0	0	16.3	1	5.0	0	0
Grassy Hills	0	23.5	0	0	0	0	0	1.1	0	0
Noh Field	0	0	0	0.2	0	0.1	0	5.0	0	0
North Fork Field	0	0	0	0	0	0	0	0	0	0
Pigtail Butte	0	0	0	0	0	0	0	2.0	0	1.0
71 Desert	0	0	0	0	0	0	0	0	0	0
Three Creek #8	0	0	0	0	0	0	0	0	0	0
Winter Camp	0.1	0	0	0	0	0	0	0	0	4.1

Figure 3.3
Noxious Weeds



3.7 Soils

The soils on the 18 BLM-administered range allotments within the JFO area are diverse and the effects of grazing pressure on these soils are variable. Rangeland health is dependent on soils, which serve to capture, store and redistribute water, support plant growth, and drive nutrient cycling. The ability of the soil to function in rangeland ecosystems is a factor of the soil's physical, biological and chemical properties. Grazing can impact these soil properties and alter the ability of the soil to support a healthy rangeland ecosystem.

There are 13 soil suborders found on within the 18 range allotments. Approximately 62 percent of the soils are associated with the Argids suborder and approximately 17 percent are associated with the Xerolls suborder (Figure 3.6; SSURGO, 2003). Borolls, Cambids, Orthids, Orthents, Orthids and Durids each represent approximately 2-5 percent of the remaining soil suborders within all 18 allotments.

Argids are light-colored, moderately fine textured soils that developed in dry conditions, contain little organic matter, and have clay (argillic horizon) or sodium (natric horizon) accumulations in the subsurface. Argids within the rangeland allotments are associated mainly with Crested Wheatgrass (27 percent), Wyoming sagebrush/thurbers (22 percent), Wyoming sagebrush/bluegrass (21 percent), and Wyoming sagebrush/Crested Wheatgrass (11 percent). Argids represent approximately 75-100 percent of the soils within the allotments Flat Top, Winter Camp, Echo 4, Coonskin AMP, 71 Desert, Pigtail Butte and Noh Field.

Xerolls are dark-colored, soft, medium to fine-textured soils near the surface (mollic epipedon), and have fine-textured soils layers absent of rock (cambic horizon), and/or clay (argillic horizon) or carbonate accumulations in the subsurface. Xerolls within the rangeland allotments are associated mainly with bluebunch wheatgrass (21 percent), mountain big sagebrush (19 percent), Wyoming sagebrush/bluebunch wheatgrass (16 percent), and low sagebrush (15 percent). Xerolls represent approximately 75-100 percent of the soils within the allotments Camas Slough, Grassy Hills, Crawfish, Three Creek #8 and Cedar Creek.

Borolls are similar to Xerolls except they are found at higher elevations and include dark-colored forest or mountain meadow soils. Borolls can also have clay or calcium carbonate (calcic horizon) accumulations in the subsurface. Borolls within the rangeland allotments are associated mainly with mountain big sagebrush (60 percent), low sagebrush (25 percent), and mountain brush (9 percent). Borolls represent approximately 92 percent of the soils within the North Fork Field allotment.

The remaining allotments do not have predominant soil suborders. Antelope Spring and Brackett Bench are primarily a mixture of Argids, Xerolls and Borolls. East Juniper Draw is comprised mostly of Argids, Orthids and Durids. Blackrock Pocket is nearly an equal mix of Argids and Xerolls, and Bruneau Hill is mostly a mixture of Cambids, Argids, Orthents and Orthids.

Erosion of soil from wind and water are major concerns because the loss of topsoil reduces the ability of the soil to function and sustain productivity for future use. The natural rate of water erosion is a function of the inherent soil properties, slope and climate (USDA, 2001). Foraging and trampling impacts from cattle can alter soils susceptibility to water erosion by depleting plant cover, degrading soil structure, and increasing compaction, thereby accelerating runoff. The extent of water erosion is also a factor of the amount of precipitation received. Within the Jarbidge Field Office area, precipitation is variable, with thirteen allotments receiving approximately 7 to 16 inches of precipitation per year (10-year average), while Three Creek #8, North Fork and upper areas of Brackett Bench, Cedar Creek and Antelope Spring can receive up to approximately 27 inches per year. Water erosion most often occurs from infrequent intense rainfall events, and soils with limited vegetative cover are most vulnerable.

Wind erosion is a widespread concern within the Jarbidge Field Office area. Many of the soil series have moderate to high wind erosion hazards. this wind erosion hazard is especially realized following fires until vegetation cover is re-established.

Table 3.8 – Annual Grass Dominance by Grazing Allotment

Allotment	Total Acreage	Annual Grass Dominated Acreage
Antelope Spring	52,025	0
Blackrock Pocket	13,147	0
Brackett Bench	21,632	0
Bruneau Hill	44,469	14,696
Camas Slough	1,606	0
Cedar Creek	28,546	0
Coonskin AMP	43,472	1,434
Crawfish	11,069	0
East Juniper Draw	24,033	549
Echo 4	17,266	327
Flat Top	37,420	569
Grassy Hills	4,908	0
Noh Field	7,476	0
North Fork Field	3,394	0
Pigtail Butte	30,655	94
71 Desert	41,482	4,773
Three Creek #8	6,547	0
Winter Camp	12,672	183
Total	401,819	22,625

Table 3.9 - Fire Frequency in the Different Vegetation Types

Fire Frequency¹	Forage Vegetation Type				Total (acres)
	Annual (acres)	Seeded (acres)	Seeded + Native (acres)	Native (acres)	
0	4,628	20,994	20,826	159,437	205,885
1	9,695	38,205	6,923	45,429	100,253
2	4,370	17,893	3,273	16,608	42,146
3	2,645	8,808	522	4,767	16,745
4	1,213	835	0	467	2,519
5	74	0	0	0	74
Total acres	22,625	86,735	31,544	226,708	367,622

¹ Number of fires in the past 50 years.

Figure 3.4
Historic Fire Regime

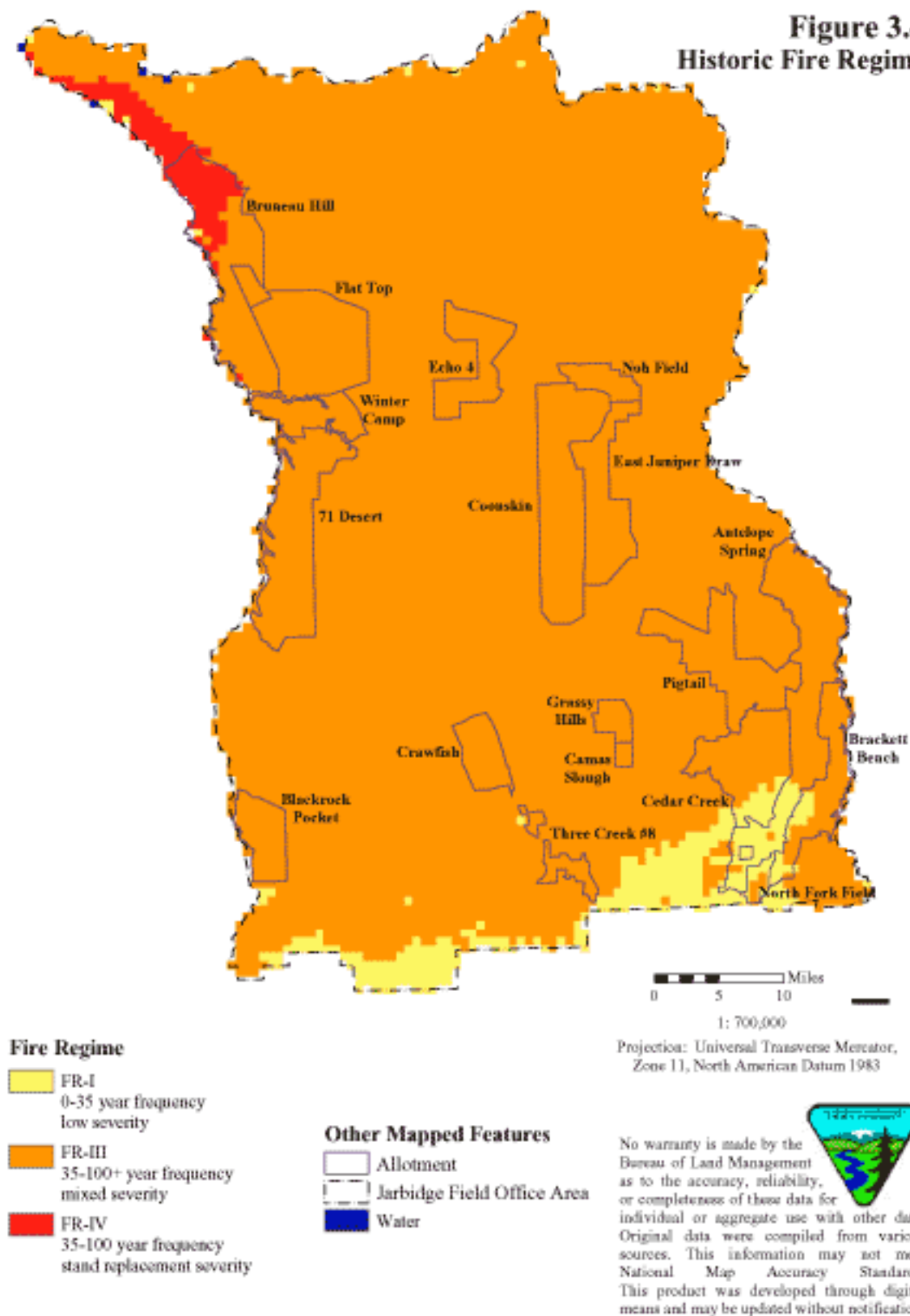


Figure 3.5
Fire Return Frequency
for Past 50 Years

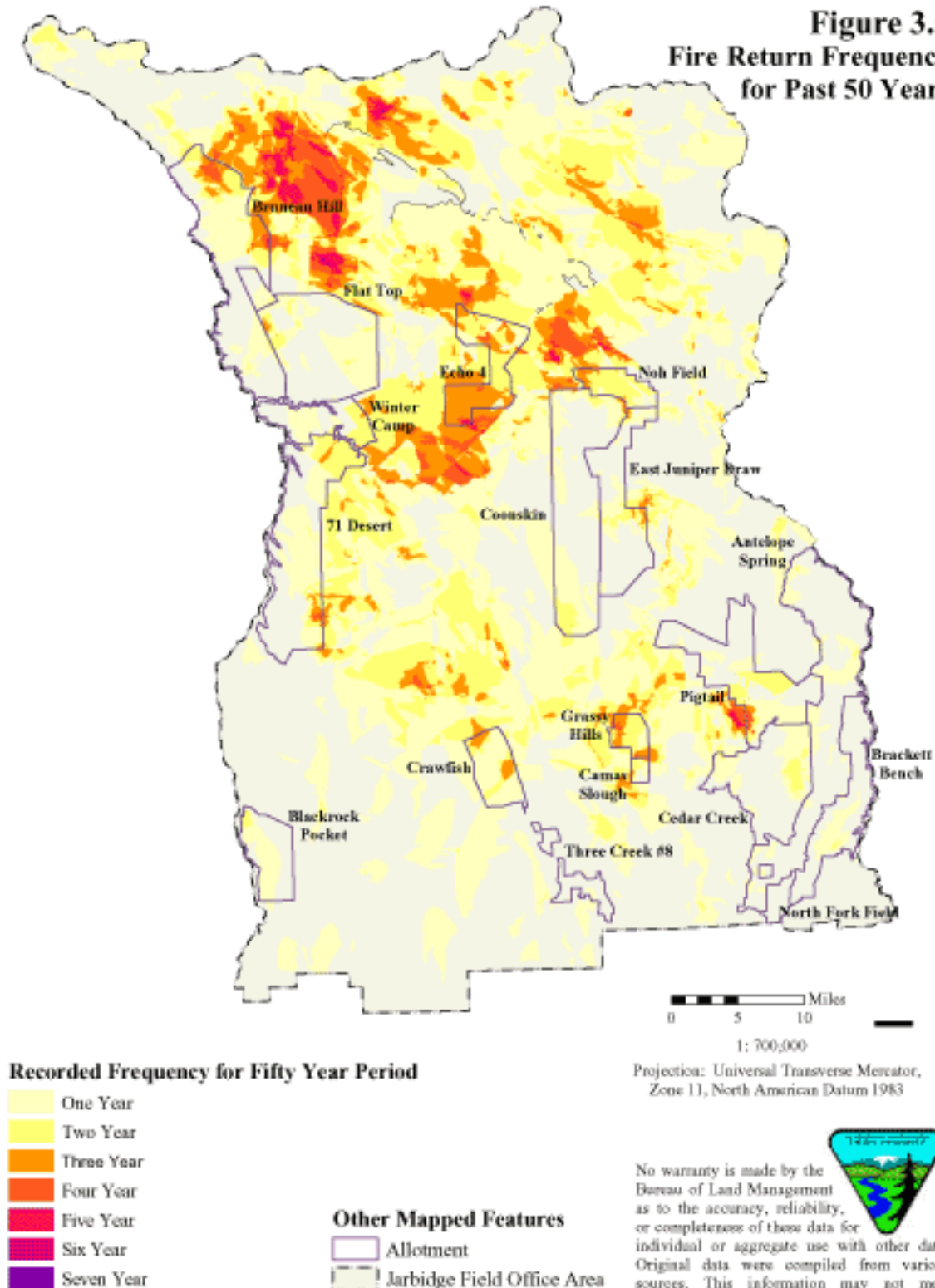
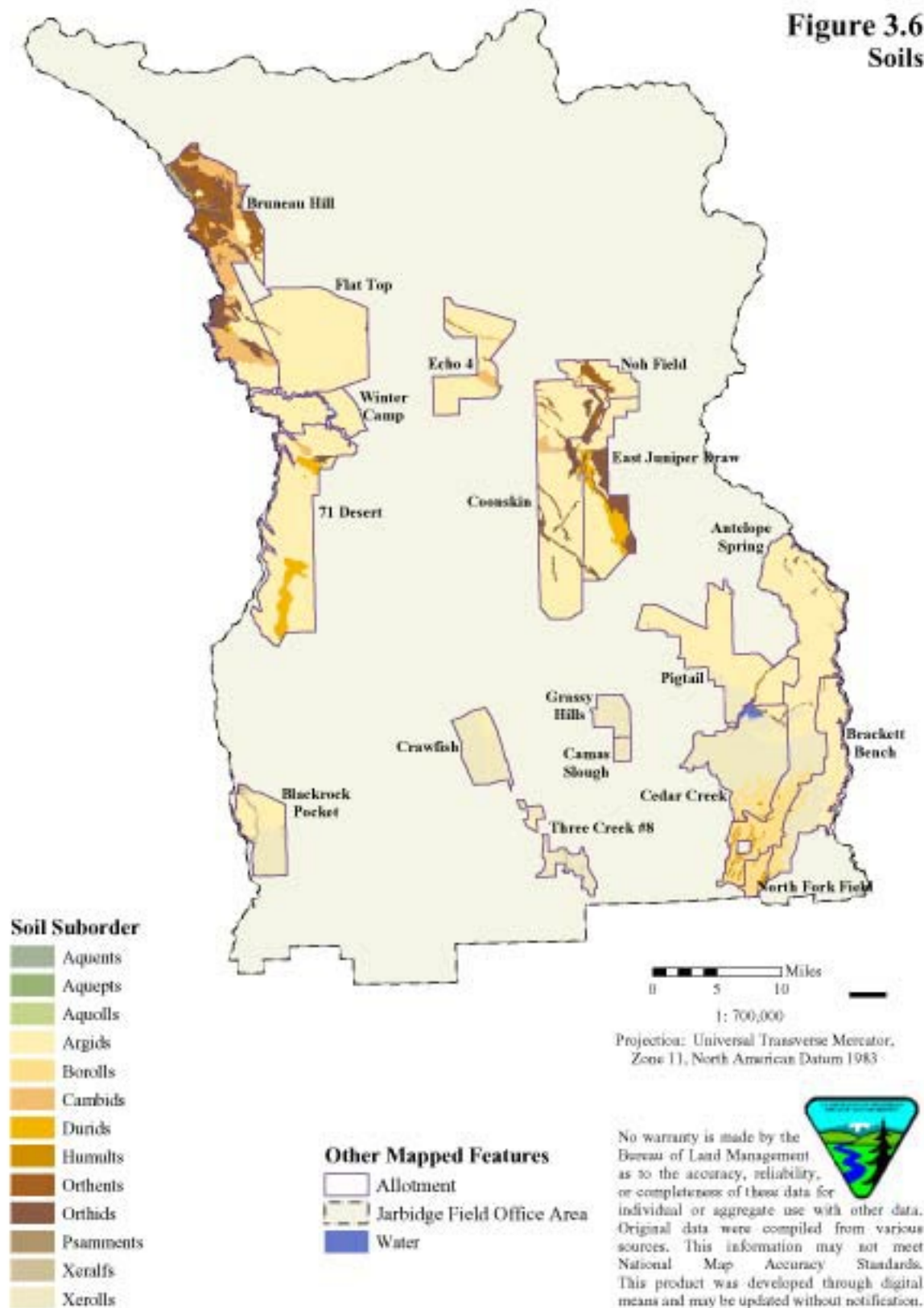


Figure 3.6
Soils



Approximately 13 percent of the soils on the 18 BLM allotments are classified as highly erodible, meaning there is the potential to lose 86 tons of soil/acre/year (Figure 3.7; SSURGO, 2003). These soils tend to have surface soil aggregates of 25 percent or less, and surface soil textures of coarse sandy loams, sandy loams, fine sandy loams, very fine sandy loam, clays silty clays, noncalcareous clay loams, silty clay loams (>35 percent clay), clay loams, silt loams and calcareous loams. Approximately half (6.6 percent) of the soil classified as moderate to highly erodible is located within the Bruneau Hill allotment, another 2.4 percent is in the Cedar Creek allotment, and the rest dispersed among the remaining allotments, particularly Coonskin AMP (1.2 percent), East Juniper Draw (1 percent), Antelope Spring (0.6 percent), Three Creek #8 (0.3 percent), Noh Field (0.3 percent), Blackrock Pocket (0.2 percent).

Soil classified as very slightly to slightly erodible represents approximately 75 percent of the soil within the allotments, meaning there is the potential to lose 48 to 56 tons/acre/year. These soils tend to have 40 to 45 percent surface aggregates, and surface soil textures of noncalcareous loams, silt loams, and silty clay or clay loams (<35 percent clay), sandy clay loams, sandy clays, and hemic (mucky peat) or fibric (peat) soil materials. The allotments 71 Desert, Coonskin AMP and Flat Top each contain approximately 10 percent of the soil classified as very slightly to slightly erodible, Pigtail Butte and Antelope Spring contain approximately 6 to 8 percent, and Echo 4, Bracket Bench, Bruneau Hill, Winter Camp, Blackrock Pocket, Crawfish, Cedar Creek, and East Juniper Draw each contain approximately 2 to 5 percent. North Fork Field, Grassy Hill and Camas Slough appear to contain small pockets of slightly to very slightly erodible soils.

3.8 Surface Water Quality

The 18 BLM-administered range allotments within the Jarbidge Field Office area contain approximately 950 miles of streams. However, 95 percent of those stream miles are classified as intermittent, meaning water flow is seasonal and dependent on rainfall, springs, or other surface sources such as melting snow (USEPA, 2003). The remaining 5 percent of the stream miles are perennial and support year-round water flow. Lakes account for 545 acres, with almost 65

percent represented by the Cedar Creek/Roseworth Reservoir in the Cedar Creek/Pigtail Butte allotments (Figure 3.8; SSURGO, 2003).

These water bodies must conform to the Clean Water Act (CWA), with the goal to maintain or restore the chemical, physical and biological integrity of the country's waters. Water bodies not meeting CWA water quality standards may be designated as impaired in accordance with section 303(d) of the CWA. The most recent list of 303(d) impaired water bodies was published by the Idaho Department of Environmental Quality (DEQ) in 1998, with a more recent listing (2002) currently in draft form.

There are five water body segments within the 18 BLM allotments listed as 303(d) impaired waters (DEQ, 1998 and USEPA, 2000; Table 3.10). The water quality standards at issue are mainly sediments, temperature, and nutrients, with some non-compliance in regards to dissolved oxygen, pathogens, and flow alterations. However, all of these water quality issues are currently rated low, meaning the impacts on the integrity of the water bodies is limited.

3.9 Wetlands and Riparian

3.9.1 Importance of Riparian and Wetland Habitat

Riparian and wetland habitats play a major role in controlling water quantity and quality, maintain stable stream banks, and provide habitat for a variety of plant and animal species that do not occur in other prairie habitat. Riparian and wetland health may be defined as the ability of a stream to perform its riparian functions (sediment filtering, bank building, water storage, aquifer recharge, hydrologic energy dissipation, etc.). In addition, a stream's health rating reflects management considerations.

Figure 3.7
Wind Erosion Hazard

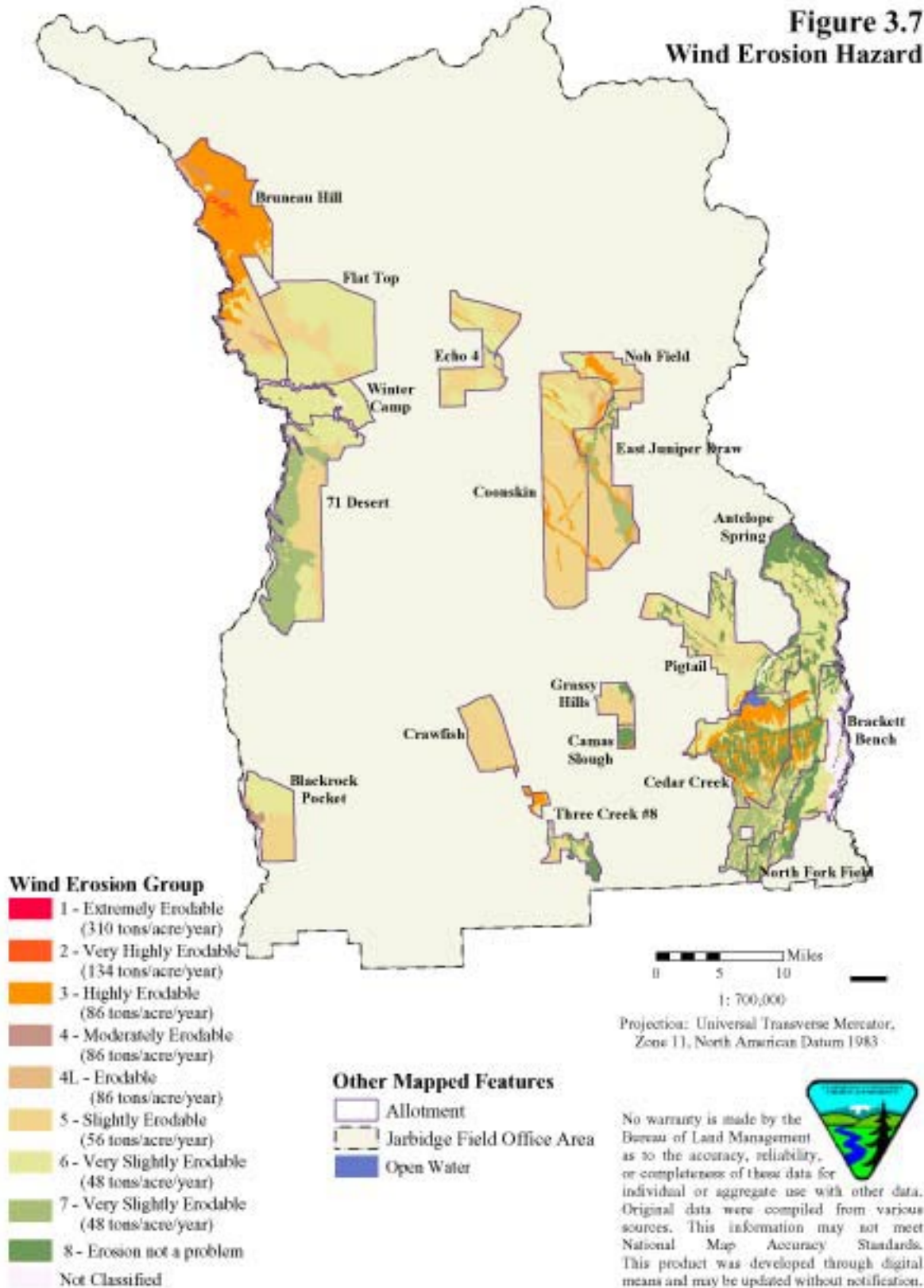


Figure 3.8
Surface Water

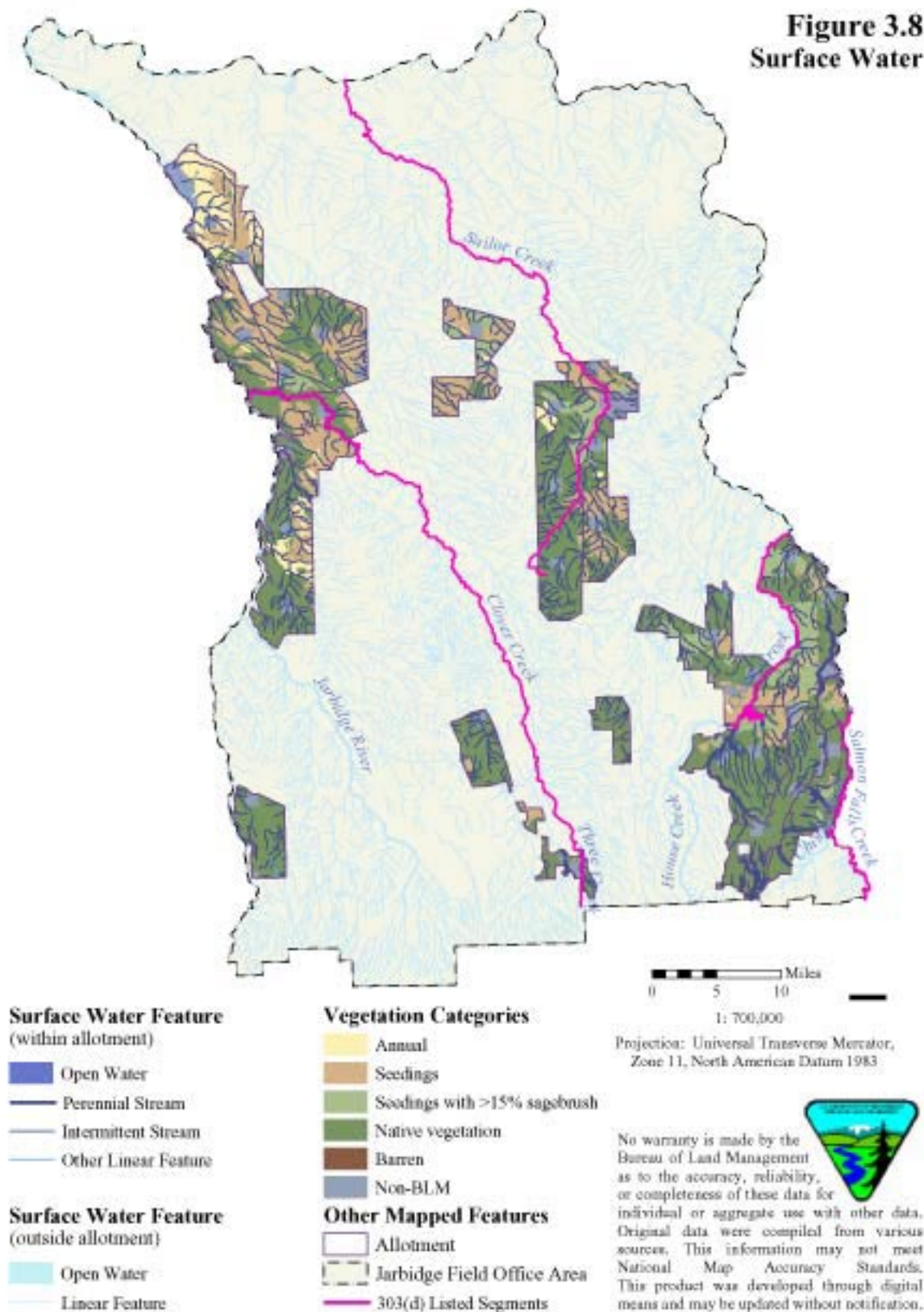


Table 3.10 - Idaho DEQ and USEPA 303(d) Listed Stream Segments, Water Quality Standards at Issue, Length of Affected Segment and Associated Allotment(s)

303(d) Listed Water Body Segment	Water Quality Standard(s) at Issue	Length of Affected Segment (miles)	Associated Allotment(s)
Salmon Falls Creek and reservoir from the Nevada state line to the dam	Nutrients and temperature. Rated Low.	8.5	Brackett Bench
Saylor Creek from its headwaters to the Snake River.	Sediments. Rated Low.	64.1	East Juniper Draw
Lower segment of Cedar Creek from Cedar Creek/Roseworth Reservoir to Salmon Falls Creek.	Nutrients, sediments, dissolved oxygen, pathogens, and flow alterations for the. Rated Low.	19.6	Pigtail Butte, Cedar Creek and Antelope Spring
Three Creek from its headwaters to the confluence of Clover Creek.	Sediments. Rated Low.	14.3	Three Creek #8
East Fork of the Bruneau River (Clover Creek) from the headwaters until it meets the Bruneau River.	Sediments and temperature. Rated Low.	52.6	Winter Camp and 71 Desert

Source: Idaho DEQ (1998) and USEPA (2001).

3.9.2 Survey Methods

The BLM and other federal and State agencies have developed a methodology referred to as Proper Functioning Condition (PFC) assessment to assess riparian health. In general, riparian and wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. Riparian areas are defined as “green zones along flowing water features such as rivers, streams, and creeks” (Hansen et al 1995) and are also referred to as lotic habitat areas; riparian lengths are reported in miles. Wetland areas are associated with standing water features such as bogs, marshes, wet meadows, and playas (also referred to as lentic habitat areas) and are reported in acres (as available). A playa is defined as “a periodically flooded wetland basin” (Hansen et al. 1995). Playas typically do not support riparian or wetland vegetation; however, they do hold water in the spring and are important for livestock and wildlife.

Most of the riparian and associated wetland areas

on the BLM-administered land within the study area have been assessed for functioning conditions. However, few of the lentic wetlands have been assessed. Information pertaining to wetlands was provided by BLM and Idaho Department of Fish & Game Staff (IDFG). Many of the lentic habitats, such as springs and playas, have been developed into stock water ponds or pipeline systems feeding stock water troughs.

3.9.3 Riparian Proper Functioning Condition

The principal streams located within each allotment watershed are outlined in Table 3.11. A map showing the locations of the riparian areas (surface water) is provided in Figure 3.8. Additional information regarding the stream reach length, dominant community types, and stream function (by reach) is provided in Table D.1, Appendix D. This information was obtained through PFC assessments based on

methodology in Technical Reference 1737-15, *A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas*.

The Bruneau and Jarbidge rivers are located in large, steep canyons on the west side of the study area, outside the allotment boundaries. These rivers have not been formally assessed, but generally show improvement or have maintained proper function conditions (Bruce Zoellick, BLM fish biologist). They are protected or have limited grazing due to topography or fencing. Excluding these two rivers, a total of 39 stream miles of riparian habitat have been assessed for PFC. Of this total, there are 15.9 stream miles or 41 percent rated as PFC. A total of 3.4 miles or 9 percent are functioning at risk (FAR) but in an upward trend. Approximately 3.6 miles or 9 percent are FAR and show no apparent trend up or a downward trend. More than 13 stream miles or 34 percent are at FAR with a downward trend. Non-functional (NF) riparian areas accounted for 2.7 miles or 7 percent of the total assessment sites. Livestock or lack of fence maintenance appears to be the primary reason that segments are either FAR or NF. Another important factor affecting PFC is dewatering by irrigation diversions.

Clover Creek represents a total of 12.2 miles or 77 percent of the 15.9 miles rated PFC (Table 3.11). Browns Creek, Antelope Springs Creek, Rocky Canyon Creek, Timber Canyon Creek and House Creek were assessed to be in poor functioning condition (NF or FAR with a downward trend).

There are no live streams or other natural open waters in the Grassy Hills Allotment. East Juniper Draw and Echo 4 allotments do not contain riparian, wetland, or stream channels/floodplains that are affected by perennial or ephemeral water flows. Therefore, no description of affected environments is warranted for these allotments. Typically ephemeral channels do not supply enough water to support a viable riparian zone.

Approximately 983 miles of intermittent streams are located within the study area. These channels carry water to perennial streams that flow to the watershed outlets. Perennial streams represent a total of 54 miles within the study area. Brackett Bench, North Fork Field, Antelope Springs, and Cedar Creek allotments

represent 44 miles or 80 percent of the perennial streams within the study area (11, 9, 12 and 12 miles, respectively). Based on the total stream miles described previously, over 72 percent of the perennial streams within the study area have been assessed for functioning condition.

3.9.4 Wetlands

Many of the wetlands in the study area are riparian zones associated with streams. Other wetlands (playas, springs, seeps, and meadows) are also present in the study area. Wetlands provide habitat, water, and succulent vegetation to wildlife, particularly in the summer and early fall. Soil surveys covering the study area are not to the level of detail needed to identify small wetlands. Therefore, lentic (wetland) habitat acres are not presented for specific allotments.

Wetland habitats are generally more common in the southern allotments (Brackett Bench, Antelope Springs, and North Fork). The larger meadows in the study area are privately owned. Playas, flat bottomed depressions with a clay bottom that are not externally drained, are dry the majority of the year but may hold some water during the late spring or following a large precipitation event. Playas are more common in the Blackrock Pocket and 71 Desert allotments, but also are present in the Winter Camp and Bruneau Hill allotments. Ponds in the bottoms of some drainages (e.g., Saylor Creek) hold water for livestock in the spring during run-off or after major precipitation events. These ponds lack the water permanence for wetland plants to establish.

3.9.5 Riparian Habitat Conditions

Riparian habitat conditions within the study area are described in this section for each of the 15 allotments where they occur. Riparian areas outside the allotment boundaries are addressed if they are even partially accessible to livestock from the allotments. For additional information on all perennial streams in the study area, see the following Section 3.10, Fisheries and Aquatic Resources.

71 Desert Allotment

Within this allotment a gate and fence keep livestock from traveling down the jeep trail to Indian Hot Springs in the Bruneau River

Canyon. The rest of the Canyon is naturally inaccessible because of the steep canyon walls.

The one permanent surface water available to livestock within this allotment is Clover Creek, which is also known as the East Fork of the Bruneau River. Clover Creek basically forms a four-mile boundary along the northern perimeter of the allotment. This reach is down-cut and entrenched and the channel is shallow and wide. Hydrophytic species density is low, with mainly Kentucky bluegrass (*Poa pratensis*), rabbitbrush (*Chrysothamnus* spp.), cheatgrass (*Bromus tectorum*), rushes (*Juncus* spp.), and redtop (*Agrostis alba*) protecting stream banks. Livestock trampling has resulted in bare and sloughing stream banks, with little desirable riparian species.

This portion of Clover Creek provides the sole source of water in the northern-most pasture of this allotment. The monitored reach is rated as FAR but is showing signs of improvement. Livestock use has become more controlled and confined with the installation of water gap fencing. Cattle can only drink from the creek at designated water gaps and no longer have complete access to the entire river bottom along this reach.

Approximately seven playas are located throughout this allotment, plus a small portion of the Inside Lakes playa.

Antelope Springs Allotment

The principal stream reach within the Antelope Springs Allotment is Bear Creek. Currently there is a protective fence around the spring at the head of Bear Creek, with two small ponds located in the creek below the springs, which affect downstream flows into the stream channel. Bear Creek channel from mile 5.4 to 5.8 is fenced to exclude cattle use but sheep trail through this area under the permit issued to Guerry, Inc. The channel is down-cut and the stream banks are largely unstable and subject to further erosion.

Sedges (*Carex* spp.) and rushes occupy a minor cover type for this reach, along with some mature willows (*Salix* spp.). Herbaceous wetland species also include tufted hairgrass (*Deschampsia caespitosa*) and fowl mannagrass (*Glyceria striata*). Livestock trailing is present along the creek, but use in 2003 was light.

Blackrock Pocket Allotment

The rim of the Bruneau River Canyon is the western boundary of the Allotment. Cattle have no access to the Bruneau River. Cougar Creek (intermittent) is present in the eastern side of the allotment and is at least a wetland. The area is colonized with Baltic rush (*Juncus balticus*) and flows during the spring in most years. Lentic wetlands are estimated at 2.15 acres within this allotment.

Brackett Bench

The main perennial surface waters associated with the Brackett Bench allotment include upper China Creek, Salmon Falls Creek and Salmon Falls Reservoir. Livestock within the Brackett Bench allotment have limited access to Salmon Falls Reservoir; however, the shores of the Reservoir do not support riparian vegetation because of the fluctuating water level. Salmon Falls Creek above the reservoir is inaccessible to livestock, and the steep canyon below the dam has not been grazed by livestock since 1984 (Warren and Partridge 1995).

Other important and ephemeral creeks in the allotment that seasonally provide water to livestock during the spring and early summer are Corral Creek and Brown Creek. The mouth of Corral Creek is fenced off near the BLM/private land boundary and currently does not receive livestock use. Predominant vegetation is Baltic rush, Kentucky bluegrass and rose (*Rosa* spp.). Other upland species include rabbitbrush and Wyoming sagebrush (*Artemisia tridentata wyomingensis*) along the stream edge. Hydrophytic species such as sedge, rush and bulrush (*Scirpus microcarpus*) are present in considerable amounts within the stream channel. Stream banks are well covered by herbaceous vegetation, largely intact and in good condition.

The upper portion of Browns Creek (mile 3.2 to 4.3) contains water yearlong. Beyond mile 3.2, the water subs into the ground. Perennial water does not flow in the lower portion of Browns Creek, below mile 2.1. The predominant vegetation along the upper portion of Browns Creek is Kentucky bluegrass, Baltic rush, rose, aspen (*Populus tremuloides*), and willow.

Table 3.11 - Riparian Habitat Condition of Streams within the Study Area

Waterbody	Miles of Riparian Habitat Conditions ¹					Total Miles Assessed	Fencing Present ⁴
	PFC	FAR ?	FAR ?	FAR ?	NF		
71 Desert Allotment							
Jarbridge River ²		4.5					A
Clover Creek		3.4				3.4	C
Antelope Springs Allotment							
Bear Creek				0.4		0.4	D
Salmon Falls Creek ²	7.8						
Brackett Bench Allotment							
Salmon Falls Creek ²	8.2						E
Corral Creek	0.7					0.7	D
Browns Creek				2.8		2.8	C
Antelope Springs Creek				1.3		1.3	C
China Creek	0.6		0.3			0.9	C
Bruneau Hill Allotment							
Bruneau River ^{2,3}	43.1						A
Cedar Creek Allotment							
Cedar Creek	1.8		1.8	3.0		6.6	A
Flat Top Allotment							
Clover Creek	4.4					4.4	A
North Fork Allotment							
Rocky Canyon Creek				1.3		1.3	C
Timber Canyon Creek				1.6		1.6	C
Pigtail Butte Allotment							
Cedar Creek				1.5	2.1	3.6	B
House Creek					0.3	0.3	C
Three Creek #8 Allotment							
Three Creek	0.6			0.2	0.3	1.1	C
Winter Camp Allotment							
Clover Creek	7.8		1.5	1.3		10.6	A
Total assessment stream miles	15.9	3.4	3.6	13.4	2.7	39	

¹ PFC = Proper Functioning Condition; FAR=Function at Risk; NF=Non functional.

² Stream conditions were gathered from personal communication with BLM biologists and specialists. Information is available on the BLM database maintained by www.Bitterrootrestoration.com

³ Bruneau River, grazing allotments 71 Desert, Bruneau Hill and Winter Camp border on the west by this river.

⁴ A = Almost or entirely fenced or rimmed, has watgap(s) or access points; B = Partially fenced or rimmed; C = Not fenced; D = Fenced; E = Rimmed/inaccessible.

The upper portion of the creek has been heavily used during the hot season by livestock. Stubble heights are too short to dissipate spring flows or to capture fines during run-off. However, mature woody vegetation is still present along much of this creek.

The lower portion of Browns Creek is predominantly Baltic rush, cheatgrass, Kentucky bluegrass, and Wyoming sagebrush. Stubble height on hydrophytic species such as Nebraska sedge (*Carex nebrascensis*) and Baltic rush ranged from 4 to 7 inches. Stream banks are relatively intact.

China Creek has been heavily used by livestock from river mile 4.5 to 5.2. The dominant vegetation community along China Creek is willow, rose, aspen, and Wyoming sagebrush. China Creek has trampled stream banks and poor riparian vegetation conditions with young willows hedged. A well-developed woody riparian zone along China Creek has not stopped livestock access to most of the creek. Livestock grazing appears to be reducing the water table and limiting riparian zone width.

Antelope Springs originates on BLM land. Nearly all of the water from this spring is currently diverted into a ditch and eventually into a pipeline to irrigate hay fields and to water livestock within the Brackett Bench Allotment. Currently, water from the ditch seeps into the nearby natural stream channel, but there is little to no flow. In 1998, water was still flowing into the natural stream channel, which was rated FAR. Species noted historically were swordleaf rush (*Juncus ensifolius*), Nebraska, beaked (*Carex utriculata*) and wooly sedge (*C. lanuginosa*). Recent observations noted that Nebraska sedge was present but without seedheads, and swordleaf rush, beaked and wooly sedge were not present. Young Wyoming sage plants along with povertyweed (*Iva axillaries*) and tumbleweed (*Salsola ibenca*) were noted along the channel.

Whiskey Slough Creek is an ephemeral stream and has not been evaluated for functionality. There is a small reservoir along Whiskey slough on private land, upstream from the BLM portion of the creek. Primary vegetation is Baltic rush, rose and Wyoming sagebrush, with cheatgrass present on the floodplain in isolated spots. Stubble height of Baltic rush at the end of the year's grazing use was approximately six inches.

Bruneau Hill Allotment

The Bruneau River Canyon is the western boundary of the Bruneau Hill Allotment. Livestock may trail down Roberson Trail into the Bruneau River Canyon from this allotment. Approximately one mile of the east side of the Bruneau River, in the general area of the confluence with Hot Creek, has been heavily impacted by past livestock grazing.

A 1.6-acre playa near Big Draw has had a reservoir dug in a portion of it for livestock water.

Camas Slough Allotment

Camas Slough is a large wetland in the eastern portion of this allotment. In the early 1990s an enclosure and dam were constructed around the portion of the slough to allow for restoration of the wetland. However, the entire wetland was not included in the present enclosure. Additionally, a water trough is located near the edge of the wet meadow within 200 feet of the fence, creating heavy livestock pressure against a portion of the fence.

The lentic functioning condition of Camas Slough has never been assessed because a portion of the wetland (approximately 5 acres) is fenced off from the direct effects of grazing. Vegetation within the enclosure has recovered to the extent that some treatment may be necessary to reduce standing biomass. Canada thistle (*Cirsium arvense*), a noxious weed, is present in the wetlands of Camas Slough.

Based on visual observations, vegetation within the enclosure includes bulrush, rush species and a fair abundance of forbs. Kentucky bluegrass and some Missouri iris (*Iris missouriensis*) were also noted. Sagebrush along the edges of the slough is dying back due to increased soil moisture. Two drainages outside the enclosure in Camas Slough are wider and down-cut, reducing water storage potential of the wetland.

Cedar Creek Allotment

Most of Cedar Creek flows through a narrow canyon with box-like walls with limited floodplain for livestock trails. With the exception of a water gap at river mile 24.9, livestock access to the Cedar Creek is restricted by canyon rims or fencing. Water flows are withheld during the fall and spring months to fill Cedar Creek Reservoir for the irrigation season.

Cedar Creek from river mile 24.2 to 26.7 is fenced but the fence is not maintained; consequently, livestock have access to this reach. Stream banks are in poor condition and lack hydrophytic and woody riparian vegetation. Species such as rose are replacing woody riparian species. The dominant herbaceous cover is primarily Kentucky bluegrass. Mature and decadent willows and dogwoods (*Cornus stolonifera*) occupy portions of this reach. Few young willows or dogwoods are present. Where present, wetland sedges have been grazed to a height of one to two inches. Existing conditions have declined from a PFC rating assessed in 1997.

Cedar Creek from river mile 26.7 to 27.4 is fairly inaccessible to most cattle use because it is steep, narrowly confined, contains huge boulders, and has very little floodplain. Woody riparian vegetation is predominantly willows, dogwood, swordleaf rush and beaked sedge.

Cedar Creek from river miles 27.4 to 27.9 and 28.2 to 28.6 is in a narrow canyon with large boulders and willows. Riparian enclosure fencing was completed in 2002. Although some livestock still access this reach, stream banks are more vegetated and stable compared to other reaches.

Cedar Creek from river mile 28.6 to 30.7 has similar conditions to those found from river mile 24.2 to 26.7. The stream banks are in poor condition and lack hydric and woody riparian vegetation.

Cedar Creek from river mile 30.7 to 31.1 is within a riparian enclosure encompassing approximately 41 acres. Stream banks are well vegetated with riparian woody and herbaceous species. Evidence of high stream flows was noted in 2003 and, due to the vegetation, the well-armored banks were protected. Several springs are located within this enclosure and have been developed and water piped to upland troughs.

Coonskin AMP

No streams with perennial water flows are located within this allotment. Although Saylor Creek runs through a portion of the allotment, it is ephemeral in nature and, in most years, does not have flowing water even during spring run off.

Crawfish Allotment

The national wetland inventory maps show the only wetlands in this allotment are associated with the ponds dug in the bottom of the Juniper Draw drainage. Mosquito Lake Reservoir has some wetland plants (Baltic rush) along portions of the perimeter. A playa-like wetland is also present in Juniper Draw. Another wetland area exists on the northeast corner of the allotment, in association with Mosquito Lake. There have been no data collected in regard to the wetland condition.

Flat Top Allotment

Clover Creek (4.5 miles) lies within the East Fork Bruneau Canyon, which is the southwest border of the Flat Top Allotment. Livestock occasionally gain access to Clover Creek but are rarely observed along this portion of the creek. In 1999 Clover Creek from mile 3.4 to 7.8 was assessed using digital images, field spot checked, and rated as PFC. The stream reach in the allotment has been excluded from livestock since 1988 or 1989, when breaks along the north rim were fenced. Clover Creek is basically inaccessible to cattle west of the fencing because of the steep canyon wall.

Riparian vegetation along this stretch is controlling erosion, stabilizing stream banks, filtering sediment, aiding in floodplain development and dissipating energy. Herbaceous grasses are well established along the reach, with several species considered wetland obligate plants that indicate maintenance of riparian soil moisture. Willows are limited in age class distribution and structural diversity and patchy in places, dominated mostly by young or seedling trees.

Stream banks are 90-95 percent vegetated and stable. Most of the vegetation along the stream bank has root masses capable of withstanding high stream flows. The riparian area is widening, indicating an upward trend. Debris deposits were evident in the active floodplain and visible at the base of the willows.

Noh Field Allotment

No natural riparian or wetland areas are known to be present in the Noh Field Allotment. Saylor Creek rarely contains water, during high runoff events, and does not support riparian vegetation along its length. There are a few excavated ponds in the channel bottom that store water when available. Some bulrush and cattails

(*Typha latifolia*) established at one of the deeper ponds in the mid 1990s.

North Fork Field Allotment

Rocky Canyon Creek's stream banks are in a degraded condition; however, since 2001, the permittee has been moving cattle out of the canyon downstream to private land. Improvements show a widening of the riparian zones and increased hydrophytic herbaceous and woody species. The channel is narrowing and the riparian zone is widening, allowing the water table to increase.

Timber Canyon Creek is extensively used by livestock during the summer and no efforts have been conducted to remove livestock from riparian areas. Livestock use has trampled stream banks, narrowed the riparian zone, and allowed upland vegetation (rabbitbrush and sagebrush) to encroach into the floodplain.

Approximately 0.10 mile of Barbour Creek flows through BLM land. Barbour Spring and the remainder of the creek flow through private land. Barbour Creek has not been evaluated.

Pigtail Butte Allotment

The two riparian zones in the Pigtail Butte Allotment are Cedar Creek from the Cedar Creek Reservoir Dam down stream to the diversion dam, and House Creek upstream of Cedar Creek Reservoir.

Cedar Creek from river mile 15.2 to 17.3 is affected by reservoir irrigation releases that have eroded the floodplain and stream banks. There are low densities of hydric species and willows in the riparian zone. Livestock regularly trail along this portion of Cedar Creek, which has resulted in trampled and active shearing and sloughing of stream banks.

Cedar Creek from river mile 17.3 to 18.8 (below Cedar Creek Reservoir) is de-watered during the reservoir fill period. The stream channel in this reach is wide and shallow, and the stream banks lack riparian vegetation to protect against high flows during irrigation releases.

House Creek flows through the Pigtail Butte Allotment from river mile 0.0 to 0.3. Since 1988 when this reach was originally evaluated, willows and riparian herbaceous species have increased and the amount of unstable stream banks has decreased.

Three Creek #8

Three Creek from river mile 11.8 to 12.1 is heavily used by livestock. Most of the floodplain and stream banks are grazed to bare ground. Riparian woody vegetation such as willows, currant (*Ribes* spp.), and rose has been heavily browsed, and most willows are in decadent condition. Desirable hydrophytic vegetation is not present in this reach. Three Creek from river mile 12.1 to 12.3 is down-cut about two to four feet in some areas. The riparian zone is degraded and narrowed, mainly from livestock trailing along the creek, raw cut banks, stream bank erosion, and a road dissecting the creek. Willows and aspens in the riparian area are mainly mature or decadent; with very few young willows present. Upland herbaceous plants dominate the riparian zone and provide little protection during high flows. Cheatgrass and other exotic annual plants are problematic in some areas. Riparian degradation is associated with livestock trampling. Three Creek in this reach typically goes subsurface and may be dry by late summer.

Three Creek from river mile 12.3 to 12.9 is a confined channel and most of this reach is inaccessible to livestock. It usually dries up by the end of summer. A well-developed, diverse woody riparian community, including willow, aspen, rose, chokecherry (*Prunus virginiana*), and dogwood helps to stabilize stream banks during high flows.

Winter Camp Allotment

Clover Creek from mile 0.0 to 7.8 is well armored with boulders and willows with a strong riparian herbaceous component. Stream banks are mainly vegetated and stable. Direct impacts from livestock use on this stretch are negligible.

Clover Creek from mile 7.8 to 9.3 has stable stream banks covered with riparian vegetation in many sections; however, there are many other sections with bare, trampled, sloughing, and unstable stream banks due to livestock grazing and trampling.

From mile 11.0 to 12.3 on Clover Creek, about 50 percent of the stream banks are either vegetated but unstable, or bare. Although hydrophytic vegetation such as sedge and bulrush occur along the stream bank, shallow-rooted Kentucky blue grass and cheatgrass

predominate, and most willows are in early seral stage.

Also within the Winter Camp Allotment is the Twin Lakes playa, which is approximately 20.6 acres in size.

3.10 Fisheries and Aquatic Resources

3.10.1 Survey Methods

Currently, there are no aquatic habitat inventories that adequately describe salmonid habitat conditions for the study area. In lieu of this lack of information, surrogate information from some of the information collected in BLM's process for assessing PFC was used to describe the affected environment. This information included observations of beaver dams, sinuosity, width/depth ratio, stream-bank vegetation and its condition, presence and sources of large woody debris, channel structure, and erosion/deposition. Other sources of information included BLM's allotment assessments for rangeland health, photographs of stream and riparian conditions, and consultations with knowledgeable professionals. Consultations were with BLM IDF&G staff. Over the years, IDF&G, BLM, and IDEQ have conducted fish surveys on some streams in the study area, including the Bruneau and Jarbidge rivers, and Salmon Falls, House, China, and Three creeks. These sources were used to make a determination of aquatic and riparian habitat conditions on fish-bearing streams in the study area.

3.10.2 Watershed/Site Description

The Bruneau and Jarbidge rivers and Salmon Falls Creek are not located within any of the allotment boundaries, but are located in large, steep canyons that border several of the allotments. Within the study area, bull trout (*Salvelinus confluentus*) are found in the Bruneau and Jarbidge rivers. The U.S. Fish & Wildlife Service (FWS) listed the Jarbidge River population of bull trout as a Threatened species in 1999. Bruneau hot springsnails (*Pyrgulopsis bruneauensis*) are located in the lower Bruneau

River. The FWS listed this species as Endangered in June 1998.

The streams within the study area known to contain redband trout (*Oncorhynchus mykiss*) are Cedar, House, Clover, Three, Rocky Canyon, and Timber Canyon creeks. BLM manages redband trout as a "sensitive" species, to prevent it from becoming Threatened or Endangered. The Columbia spotted frog (*Rana luteiventris*) is designated as a Candidate for threatened or endangered status, and also as BLM sensitive species. Rocky Canyon Creek is the only stream in the study area known to contain this species. Table 3.12 shows occurrence of listed and BLM sensitive aquatic species by stream and allotment. Life histories and habitat requirements for listed and sensitive aquatic species are described in Appendix E.

Bull and redband trout are the only indigenous salmonids bordering or occurring within the study area. Other native fish probably found in some of the study area streams include:

- mountain whitefish (*Prosopium williamsoni*),
- northern pike minnow (*Ptychocheilus oregonensis*),
- bridgelip sucker (*Catostomus columbianus*),
- mountain sucker (*C. platyrhinchus*),
- largescale sucker (*C. macrocheilus*),
- mottled sculpin (*Cottus bairdi*),
- Paiute sculpin (*C. beldingi*),
- Shoshone sculpin (*C. greeniei*),
- shorthead sculpin (*C. confusus*),
- longnose dace (*Rhinichthys cataractae*),
- speckled dace (*R. osculus*),
- leopard dace (*R. falcatus*),
- chislemouth (*Acrocheilus alutaceus*) and
- redband shiner (*Richardsonius balteatus*).

Dace, shiners, and sculpins are found in most streams, while whitefish and suckers are mainly in the larger Bruneau and Jarbidge rivers and Salmon Falls Creek. The northern pike minnow and chislemouth are found in the Salmon falls Creek drainage. Introduced species in the study area (found mainly in Salmon Falls Creek) include smallmouth bass (*Micropterus dolomieu*), walleye (*Stizostedion vitreum*), yellow perch (*Perca flavescens*), brown trout (

Salmo trutta), brook trout (*Salvelinus fontinalis*), and hatchery rainbow trout (*O. mykiss*).

3.10.3 Habitat Conditions

Generally in the study area, larger rivers outside the allotments (e.g., Bruneau and Jarbidge rivers) had overall better riparian and aquatic habitat conditions compared to smaller streams within the allotments (e.g., Timber Canyon, House, Three, Cedar creeks). The Bruneau River accounted for most of the miles (44.1 out of 98.4 miles) of fish-bearing stream. As shown in Table 3.13, 43.1 miles of riparian and aquatic habitat conditions were rated in proper PFC and excellent condition, respectively. In the rest of the study area, aquatic habitat conditions on allotment fish-bearing streams appear overall to be in lower condition compared to riparian functionality.

Excluding conditions on the Bruneau and Jarbidge rivers, 25.7 miles (47 percent) of stream were rated in PFC for riparian conditions, while 1.9 miles (3 percent) of streams were estimated to be in excellent aquatic habitat condition (Table 3.13). Similarly, 2.7 miles (5 percent) of streams were rated in nonfunctional condition (NF) for riparian conditions, while 16.6 miles (31 percent) of stream were estimated to be in poor aquatic habitat condition. Rocky Canyon, Cedar, Timber Canyon, House, and Three creeks were all judged to be in poor aquatic habitat condition.

Habitat conditions for each stream are discussed in this section of the report in further detail, by allotment. For additional description of riparian habitat conditions by stream reach, see Section 3.9 Wetlands and Riparian Areas.

Bruneau River

The Bruneau River lies within a large, steep canyon that borders the 71 Desert, Bruneau Hill, and Winter Camp allotments on the west. Bull trout are rare in the entire river and redband trout are rare from Indian Hot Springs upstream to Clover Creek and further upstream in the area of Triplet Butte (IDFG, unpublished data). BLM staff inventoried the Bruneau River from BLM-managed lands just above the confluence of Hot Creek upstream to the Idaho-Nevada border.

The topography of the Bruneau Canyon generally prohibits livestock access to the River.

71 Desert Allotment

There are some historic records of bull trout in the Bruneau River adjacent to the 71 Desert allotment. Per BLM staff, fluvial bull trout probably move downstream in the fall through spring into the Bruneau River that borders the 71 Desert Allotment following spawning and when water temperatures are continually below 14°C. A gate and fence keeps livestock from traveling down the jeep trail to Indian Hot Springs in the Bruneau River Canyon.

Bruneau Hill Allotment

Although the pack trail near Hot Creek is fenced and gated, livestock trail down Roberson Trail and a pack trail southeast of Hot Creek into the Bruneau River Canyon from this allotment. Per BLM staff, the stream channel in the general area of Hot Creek on the east side of the river has been heavily impacted by past livestock grazing. Bruneau hot springsnails have been documented in a number of springs that border the Bruneau River in the general vicinity of Hot Creek and upstream about four miles. Per BLM staff, the Bruneau River contains redband trout in pools during the late fall and a fluvial population of bull trout that tend to move over 50 miles during low flows and warm water temperatures in the late fall through the following spring.

Winter Camp Allotment

The Bruneau River bordering the Winter Camp Allotment contains redband trout from the fall through spring and provides bull trout habitat in the fall and winter.

Blackrock Pocket Allotment

Livestock have no access to the Bruneau River from the Blackrock Pocket Allotment. The canyon rim on the west side of the allotment is too steep for livestock to travel.

Jarbidge River

The Jarbidge River is in a large, steep canyon bordered by the 71 Desert Allotment. Some livestock from the 71 Desert Allotment occasionally enter the steep canyon. Based on a visual inventory conducted by BLM staff, this river is at PFC and aquatic habitat is in near-excellent condition. Willows and other riparian shrubs clearly are not back to pre-settlement levels or at potential natural community (PNC) conditions, but BLM staff observed a slow increase in riparian density and cover in the Jarbidge River Canyon.

**Table 3.12 - Listed and BLM Sensitive Aquatic Species Found in Streams by
Grazing Allotment**

Waterbody	Listed and BLM sensitive Aquatic Species			
	Bull trout	Redband trout	Bureau Hot Springs Snail	Columbia spotted frog
71 Desert Allotment				
Jarbidge River	X	X		
Bruneau River	X	X		
Clover Creek		X		
Antelope Springs Allotment				
Salmon Falls Creek		X		
Rocky Canyon Creek		X		
Cedar Creek		X		
Black Rock Pocket Allotment				
Bruneau River	X	X		
Brackett Bench Allotment				
China Creek		X		
Corral Creek				
Browns Creek				
Salmon Falls Creek		X		
Salmon Falls Creek Reservoir		X		
Bruneau Hill Allotment				
Bruneau River	X	X	X	
Camas Slough Allotment				
Cedar Creek Allotment				
Cedar Creek		X		
Coonskin AMP Allotment				
Crawfish Allotment				
East Juniper Draw Allotment				
Echo 4 Allotment				
Flat Top Allotment				
Clover Creek		X		
Gassy Hills Allotment				
Noh Field Allotment				
North Fork Field Allotment				
Rocky Canyon Creek		X		X
Timber Canyon Creek		X		
Pigtail Butte Allotment				
Cedar Creek		X		
House Creek		X		
Three Creek #8 Allotment				
Three Creek		X		
Winter Camp Allotment				
Bruneau River		X		
Clover Creek		X		

Table 3.13 - Riparian and Aquatic Habitat Condition of Streams with Aquatic Species

Waterbody/Allotment	Miles of Riparian (Aquatic Habitat Conditions) ¹				
	Properly Functioning	Functioning at Risk ?	Functioning at Risk?	Functioning at Risk ?	Non-functional
Jarbidge River					
71 Desert		4.5 (G)			
Bruneau River					
71 Desert	43.1 (E)				
Bruneau Hill		1.0 (G)			
Winter Camp					
Black Rock Pocket					
Clover Creek					
71 Desert		3.4 (P)			
Flat Top		4.4 (F)			
Winter Camp	7.8 (G)		1.5 (F)	1.3 (P)	
Salmon Falls Creek					
Antelope Springs	7.8 (F)				
Brackett Bench	8.2 (F)				
Rocky Canyon Creek				1.3 (P)	
China Creek	0.2 (E)			0.7 (F)	
Cedar Creek					
Cedar Creek	1.1 (E)	0.9 (G)	1.8 (P)	2.8 (P)	
Pigtail Butte				1.5 (P)	2.1 (P)
Timber Canyon Creek				1.6 (P)	
House Creek					0.3 (P)
Three Creek	0.6 (E)			0.2 (P)	0.3 (P)
Total fish-bearing stream miles	68.8	14.2	3.3	9.4	2.7

¹ Aquatic habitat condition was subjectively rated as excellent (E); good (G); fair (F); or poor (P), based on available information and interviews with BLM and IDFG fish biologists.

Currently, bull trout are rare in the entire Jarbidge River. Redband trout are common from the mouth for the first four miles and abundant upstream from Buck Creek (IDFG and DEQ, unpublished data).

Clover Creek

Clover Creek (also known as East Fork Bruneau River) is a tributary to the Bruneau River. It starts at the confluence of Three Creek and Flat Creek and enters the Bruneau River at river mile 37.5. The lower end of Clover Creek flows through the steep basaltic East Fork Bruneau Canyon, which has very little access. The Canyon borders the Bruneau Hill, 71 Desert, Flat Top, and Winter Camp allotments.

In the past, redband trout were found in Clover Creek downstream from the confluence of Deadwood Creek (IDFG, unpublished data). A July 1997 DEQ survey found 18 redband trout in

100 meters of Clover Creek upstream from the lower bridge crossing (DEQ, unpublished data). However, a summer study in years 2002 and 2003 by IDFG found no redband trout, with stream habitat within the sample sites not suitable salmonid habitat (Mearle et al. unpublished data). The study found that factors limiting trout were low stream flows, high water temperature, and poor aquatic habitat, e.g., gravel embeddedness, high width-to-depth ratios (>10), high fine sediments (60 percent), poor streambank conditions, and scarce overhanging vegetation (Mearle et al. unpublished data). These conditions were especially true where active grazing was observed. However, poor riparian habitat conditions showed some signs of recovery. Fish species sampled included bridgelip sucker, chiselmouth chub, northern pikeminnow, redband shiner, shorthead sculpin, and speckled dace.

Clover Creek from river mile 7.8 to 9.3 has a gap fence that is not maintained at the upstream end, so livestock can enter this reach. Clover Creek in this stream reach is wide and shallow, and the channel is down-cut with little sinuosity. Although stream banks are stable and covered with riparian vegetation in many sections of this reach, other sections have livestock trails and use that have created bare, trampled, sloughing, and unstable stream banks. These are sources of in-stream sediment in downstream areas and are probably the main reason that gravel/cobble substrate in Clover Creek is covered with fines.

Clover Creek from river mile 11.0 to 12.3 is accessible to livestock from Winter Camp and 71 Desert allotments. About 50 percent of the stream-banks in this stream reach are either vegetated but unstable, or bare and raw. Stream sections with gravel substrate are mostly covered with silt.

Salmon Falls Creek

Salmon Falls Creek is located in a large, steep canyon that borders on the Antelope Springs and Brackett Bench allotments. It originates in Nevada, flows north in Idaho and is impounded by Salmon Falls Creek Reservoir at river mile 48. Below the reservoir, Salmon Falls Creek is inaccessible and has not been grazed by livestock since 1984 (Warren and Partridge 1995). The area above Salmon Falls Creek Reservoir is also inaccessible to livestock. The Reservoir itself is partially accessible to livestock from the Brackett Bench Allotment; however, no vegetation grows below the high water line because of the fluctuating water levels.

Rocky Canyon Creek

Rocky Canyon Creek, located between the North Fork and Antelope Springs Allotments, is a tributary of the North Fork Salmon Creek that originates in Idaho and flows south into Nevada. Rocky Canyon Creek (Rosgen A-type channel) flows through a mostly narrow canyon, concentrating livestock use in the wider floodplain reaches that lack woody vegetation. Steeper reaches of the stream have down-cut and the flatter gradient areas have widened. Stream banks are in a degraded condition.

Redband trout are common in Rocky Canyon Creek (IDFG, unpublished data) and Columbia spotted frogs are present within the allotment boundary. Since 2001, riding and moving livestock to private land has improved aquatic

habitat conditions and widened the riparian zone. Data collected by BLM fishery biologists in the early 1980s documented redband trout in Rocky Canyon, but a 2002 inventory did not capture any. The portion of Rocky Canyon Creek in the Antelope Springs Allotment has about 0.15 miles of fence that excludes livestock from the riparian zone and stream.

Timber Canyon Creek

Timber Canyon Creek, a tributary of the North Fork Salmon Creek, originates in Idaho and flows south into Nevada. The reach of Timber Canyon Creek in the North Fork Allotment is extensively used by livestock during the summer, resulting in trampled stream banks, a reduction of water storage capacity in the riparian zone, a narrowed riparian zone, reduced stream flows, and encroachment of upland vegetation into the floodplain. Redband trout are common in Timber Canyon Creek (IDFG, unpublished data) and spotted frogs are present in beaver ponds in the North Fork Allotment.

China Creek

China Creek flows into the backwaters of Salmon Falls Creek Reservoir from the southwest. The reach located in the Brackett Bench Allotment is dominated by willow, rose, aspen, and Wyoming sagebrush. From river mile 4.5 to 5.2, livestock have heavily used China Creek. Below the falls (Rosgen C-channel), China Creek has a high width-to-depth ratio, some sections that are incised, trampled stream banks, poor riparian vegetation conditions, and young willows that are hedged. Above the falls (Rosgen B-channel), China Creek is armored by cobble and boulder substrate, with sections down-cut. A well-developed woody riparian zone along China Creek has not stopped livestock access to most of the creek. However, in-stream gravel substrates are relatively clean of fine sediment. Redband trout are rare below the falls (BLM, unpublished data) and no inventory has been conducted for spotted frogs. Suitable spotted frog habitat is present along a section of China Creek, located upstream of the waterfall in old beaver ponds.

Cedar Creek

Cedar Creek is the largest tributary entering Salmon Falls Creek below Salmon Falls Creek Reservoir. Most of Cedar Creek flows through a narrow canyon with box-like walls and has a limited floodplain for livestock trails. Redband

trout have been observed in Cedar Creek from the headwaters down to Cedar Creek Reservoir and are common above the reservoir to Dove Spring and in the area of Antelope Spring (IDFG, unpublished data).

For the most part, Cedar Creek below the dam is not considered as suitable habitat for redband trout due to the operation of the dam. Water flows are stopped in the fall through spring while the reservoir is filled for the irrigation season. Some redband trout likely overwinter in Cedar Creek Reservoir (IDFG, unpublished data). Water temperatures tend to increase in the lower portions of Cedar Creek because of low flows (IDFG, unpublished data). No inventories for spotted frogs have been conducted in the Cedar Creek drainage; however, suitable habitat is present in some sections.

Cedar Creek and Antelope Springs Allotments

Cedar Creek from river mile 24.2 to 26.7 was fenced, but some of the fence is not maintained; consequently, livestock can access this reach. Stream banks have been trampled and are bare and sheared in some sections. This reach of Cedar Creek is shallow and wide, lacks sinuosity, and has high fine sediment levels, unstable stream banks, and a few young, damaged willows.

Cedar Creek from river mile 26.7 to 27.9 and 28.2 to 28.6 is fairly inaccessible to most cattle use because the drainage is steep, narrowly confined, contains huge boulders and willows, and has very little floodplain. Stream banks are more vegetated and stable and trails are not as extensive compared to the other reaches.

Cedar Creek from river mile 28.6 to 30.7 has similar conditions to those found from river mile 24.2 to 26.7.

Pigtail Butte Allotment

Cedar Creek from river mile 15.2 to 17.3 is affected by reservoir irrigation releases that have eroded the floodplain and stream banks. Consequently, the stream channel is very wide, and relatively straight and ditch-like. Livestock from the Pigtail Butte Allotment regularly trail along this portion of Cedar Creek, resulting in trampled and active shearing and sloughing of stream banks. Livestock also have access to Cedar Creek Reservoir. Numerous wide livestock trails leading from the creek to the uplands are a source of in-stream fine sediment.

Cedar Creek from river mile 17.3 to 18.8 (below Cedar Creek Reservoir) is dried up during the reservoir fill period. The stream channel in this reach is wide and shallow, and stream banks lack riparian vegetation to protect against high flows during irrigation releases.

House Creek

House Creek enters Cedar Creek upstream of Cedar Creek Reservoir. The reach within the Pigtail Butte Allotment flows through the allotment from river mile 0.0 to 0.3. About 2.9 miles of the stream flows through private land before entering the allotment. House Creek remains wide, shallow, ditch-like, and contains higher than normal amounts of fine sediment. Redband trout are common in House Creek (DEQ, unpublished data), but water temperatures and low flows can exceed redband trout tolerances.

Three Creek

Three Creek enters Clover Creek near the confluence of Deadwood and Big Flat creeks. A portion of it flows through the Three Creek #8 Allotment. Livestock heavily use Three Creek from river mile 11.8 to 12.1. Most of the floodplain and stream banks are grazed to bare ground and continually supply fine sediment to Three Creek. The braided, down-cut stream channel is not laterally stable and is becoming wider with higher flows.

Three Creek from river mile 12.1 to 12.3 has down-cut about two to four feet in some areas and the width-depth ratio is high. The riparian zone is degraded and the floodplain narrowed (mainly from livestock trailing along the creek), with raw cut-banks, active stream-bank erosion, and a road dissecting the creek.

Three Creek from river mile 12.3 to 12.9 is a confined channel and most of this reach is inaccessible to livestock. This reach of stream usually dries up by the end of summer. It has high amounts of large cobbles, boulders, and woody debris.

Redband and brook trout were present in Three Creek in the Three Creek #8 Allotment in the early 1980s (IDFG, unpublished data). Redband trout probably migrate upstream during declining flows and increasing water temperatures. Redband trout are rare from the mouth upstream for the first 1.5 miles and are common from Deep Creek downstream for two miles.

3.10.4 Important Elements of Aquatic Habitat

Following is a discussion of key habitat elements and/or limiting factors that could relate to potential effects of livestock grazing on habitat for bull and redband trout and Columbia spotted frogs.

Sediment

Salmonids have evolved and adapted to the natural size distribution of channel sediments (Platts 1979). However, increased deposition of fine sediment can adversely affect salmonid spawning and rearing habitat by:

- Increasing embeddedness in cobbles and spawning gravel (Bjornn and Rieser 1991) that in turn interferes with water flow and oxygen (Chapman 1988), thereby reducing egg and fry survival (Stowell et al. 1983);
- Reducing salmonid food production (Chapman and McCleod 1987); and
- Reducing the volume of pools, thereby degrading available salmonid summer and winter rearing habitat.

Water temperature

Water temperature can affect salmonids and other aquatic biota by influencing timing of migration and spawning, egg maturation, growth, diseases, and pollutants (Brett 1952; Bjornn and Reiser 1991). High water temperatures can delay or stop salmonid migration, spawning, egg development, and rearing (Bjornn and Reiser 1991). Salmonids generally are found in water from 13° to 18° C (Theurer et al. 1985). Water temperatures are affected by the amount of shade provided by riparian vegetation.

Large woody debris

Large woody debris (LWD) is one of the most important sources of habitat and cover for salmonids in streams, and Bisson et al. (1987) found that important relationships exist between LWD, habitat complexity, and salmonid production.

Pool habitat

Pools are a dominant feature and major component of salmonid habitat in all stream channels (Bjornn and Reiser 1991). Pools

provide shelter, food, and resting/rearing habitat for adult and juvenile salmonids (Meehan 1991). The loss of pool habitat can have major adverse effects on salmonid fish habitat (Lee et al 1997, Platts 1990).

Width/depth ratio

The width-to-depth ratio indicates the relative balance between sediment load and sediment transport capacity. An increased width-to-depth ratio can reduce the suitability of stream habitat for salmonids (Platts and Nelson 1986). A wider, shallower channel may change water temperature regimes, eliminate fish cover, reduce pool habitat, and change macroinvertebrate production (Meehan 1991).

Stream-bank stability

Stable banks are linked with channel stability and the maintenance of complex, diverse aquatic habitat for stream biota (Platts and Nelson 1986). Stable stream banks reduce the amount of fine bedload sediment entering the channel (Platts 1990).

Floodplain connectivity

Floodplain connectivity includes off-channel areas, wetlands, and riparian areas that are frequently hydrologically linked to the main channel by overbank flows. Elimination or reduction of these areas can decrease the productivity of aquatic systems.

Riparian habitat

Riparian Habitat Conservation Areas (RHCAs) are defined as those portions of watersheds where riparian-dependent resources receive primary emphasis (INFISH 1995). RHCAs include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems. They protect aquatic habitat by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams; (2) providing root strength for channel stability; (3) shading the stream; and (4) protecting water quality (Naiman et al. 1992). Widths of RHCAs needed to protect a stream from non-channelized sediment inputs usually are sufficient to maintain other riparian functions, including delivery of organic matter and woody debris, stream shading, and bank stability (Brazier and Brown 1973; Beschta et al. 1987; Platts 1990; Belt et al. 1992).

3.11 Terrestrial Wildlife

3.11.1 Wildlife Habitat

The best estimate of the number of terrestrial vertebrate wildlife found within or adjacent to the 18 allotments in the JFO area are 73 mammals, 207 bird species, 8 reptiles, 18 amphibians, totaling 306 species. There are

seven main terrestrial wildlife habitat types in the 18 allotments of the JFO area, (Table 3.14). The combination and arrangement of the landscape features along with the variety of vegetation within the individual plant communities and the mixture of these plant communities intertwined with the riverine systems creates the numerous habitats and niches occupied by these animal species. Table 3.15 shows the terrestrial plant communities with associated species richness.

Table 3.14 – Dominant Terrestrial Wildlife Habitats associated with 18 Grazing Allotments in the JFO Area

Vegetation Type	Acres	Percent
Wyoming Big Sagebrush/Native Bunchgrass, Crested Wheatgrass	178,389	44.4
Seedings (Crested and Intermediate Wheatgrass)	88,888	21.6
Mountain Big Sagebrush, Mountain Brush	30,714	7.6
Bunchgrasses (Bluebunch, Wheatgrass, Bluegrass, Idaho Fescue, Rice grass/Stipa)	23,074	5.7
Annual grassland (Cheatgrass)	22,625	5.6
Low Sagebrush	22,215	5.5
Mixed shrubs (Rabbitbrush, Basin Big Sagebrush, Four-wing Saltbrush)	3,844	<0.1
Semi-Wet Meadow	82	<0.1
Non-BLM (not typed)	33,683	8.4
Water	282	<0.1
Barren (cliffs, Caves, Talus, Sand Dunes, Playas)	24	<0.1
Total	401,820	100.0

Table 3.15 – Terrestrial Wildlife Habitat and the Estimated Number of Associated Species in the 18 Grazing Allotments of the JFO Area

Community	Total Species	Mammals	Birds	Amphibian & Reptiles
Range Riparian/Wetlands	215	45	153	17
Wyoming Big Sagebrush/Native Bunchgrass, Crested Wheatgrass	140	46	76	18
Mountain Big Sagebrush, Mountain Brush	137	37	82	18
Mixed shrubs (Rabbitbrush, Basin Big Sagebrush, Four-wing Saltbrush)	130	39	70	21
Bunchgrass & annual grassland	133	37	80	16
Seedings (Crested and Intermediate Wheatgrass)	34	9	17	8
Special Habitats-cliffs, caves, Talus, Sand dunes, playas	51	15	26	10

The lack of site-specific inventories and information on most of the wildlife species including the special status species hinders making site-specific recommendations for management. Generalized information is provided on habitat requirements obtained from available research findings and recommendations.

Most of the habitats that provide for various wildlife species are below carrying capacity potential due to their sub-nominal ecological condition. One concern is the apparent lack of forbs in both upland and riparian habitats. Bunchgrasses such as Thurber needlegrass and bluebunch wheatgrass are at lower than expected densities in the lower elevation habitats (below 5,200 feet). In these habitats native forbs are generally sparse and restricted to a few grazing tolerant species (primarily Phlox) and other low growing plants (woolypod milkvetch, low pussytoes, etc.). Another concern with regards to wildlife habitat is the extent of seeded rangeland and annual grassland. At least 13 of the 18 allotments have portions of the allotments in annual grasslands, Crested Wheatgrass seedings, or sagebrush/Crested Wheatgrass combinations.

The higher elevation habitats (those above 5,200 feet) are generally in better condition than the lower elevation habitats having a diverse and fairly abundant forb community and greater diversity of bunchgrasses. This may be due to improved ecological condition at higher elevations because of differences in grazing management (later in the growing season), higher annual precipitation, or most likely an interaction of both.

The mountain shrub, sagebrush/aspen communities (the higher elevation habitats) are a small component of the vegetation communities in the JFO AREA. Portions of the following allotments have mountain shrub, sagebrush/aspen communities – Brackett Bench, Cedar Creek, Antelope Springs, Pigtail Butte, North Fork Field and Three Creek #8. Because of the increased precipitation due to the elevation gradients, vegetation communities have increased vertical structure, horizontal layering and plant diversity that provide numerous habitats and niches for many wildlife species. Species such as wood peckers, accipiters, songbirds, rodents, furbearers, lizards, toads, as

well as deer and occasional elk are some of the animals found in these habitats.

Species associated with sagebrush-steppe communities (the lower elevation habitats) include sagebrush lizard, black-tailed jackrabbit, pygmy rabbit, sagebrush vole, least chipmunk, vesper sparrow, gray flycatcher, sage thrasher, sage grouse, sage sparrow, and Brewer's sparrow. Because of the rigid nature of sagebrush plants, it will support nests better than rabbitbrush. Sagebrush provides vertical structure for nesting, perching, shade and foraging habitat (invertebrates) for birds and browse for many other wildlife species. Because sagebrush is evergreen, it provides cover and forage for some species year round. Sagebrush species include mountain big sagebrush, Basin big sagebrush, Wyoming big sagebrush, and low sagebrush. Mountain big sagebrush and low sagebrush are most utilized for food or cover by wildlife species in these communities.

Riparian/Wetland communities occupy less than 1 percent of the landscape but are disproportionately used more by wildlife than any other habitat. (Maser 1986) Of the terrestrial wildlife species known to occur in the JFO area, 80 percent are either directly dependent on riparian areas or utilize them more than any other habitat. Many aquatic and semi-aquatic species are found nowhere else and include shorebirds, several songbirds, waterfowl, frogs, salamanders, beaver, and muskrats. Although riparian habitats are narrow ribbons throughout the landscape, they are critical lifelines that are interrelated with the upland habitats. They provide key habitat components of water, cover, foraging and reproductive areas, as well as migration and travel corridors in a relatively small area. Other key components provided by riparian habitats are increased edge, high plant species diversity and season long greenness/nutrition. All but three allotments, Grassy Hills, East Juniper Draw, and Echo 4, have riparian/wetlands habitat. Other riparian/wetlands associated species include voles, some shrews and bats, as well as warblers, several sparrows, redheaded blackbird, cordilleran flycatcher, belted kingfisher, shore birds and some waterfowl.

Various types of wildlife utilize the different habitat structures in the JFO area for nesting, perching, or hiding. Several bird species nest in large trees such as aspens, cottonwoods and willows, or in junipers not associated with

riparian zones. These species include a number of woodpeckers, some warblers and flycatchers, mountain bluebird, chickadee, tree swallows, and house wren. Many raptors nest in cliff habitats, especially along the Bruneau and Jarbidge River Canyons. Other species also use this habitat such as western fence lizard, yellow-bellied marmot, woodrat, rock wren, rock dove, canyon wren, and cliff swallow. Many bat species use the crevices and holes in cliffs for roost sites and forage over the adjacent uplands or riparian zones. Many of the reptiles (snakes and lizards) use rocks and burrows excavated by small mammals for egg laying. Snakes lay eggs in late spring or early summer whereas many of the lizards lay eggs in late summer. Amphibians utilize ponds, marshes, sloughs, meadows, other wetland areas for their life cycle. The critical time of the year for them is from egg deposition to the metamorphosis to adult. The large predators, such as mountain lions, bobcat, and coyote may be found in a variety of habitat throughout the area, and wherever prey is most easily available. Current winter ranges for big game and occurrence of the “key” wildlife species and habitats are shown in Figure 3.9 and described in Appendix F.

3.11.2 Big Game Species

Elk, mule deer, pronghorn and bighorn sheep are the big game species associated with the 18 grazing allotments (Figure 3.9). Featured Species Management and Species Richness Management strategies are currently being used by the JFO in managing wildlife resources. The goal of “Featured Species” management is to produce selected species in desired numbers in specific locations. These may be game species, special status species or species that have high particular esthetic values i.e. raptors. The goal of Species Richness Management is to produce a relatively high number of most native wildlife species in a designated area in viable numbers on a sustainable basis-songbirds, bats, amphibian (Thomas 1979). Featured species of concern for

this analysis are mule deer, pronghorn, bighorn sheep, elk, sage grouse, raptors, and other special status species.

Elk

Depending on the severity of winter conditions approximately 200-400 “migratory” elk may winter in the south and southeastern part of the JFO area in the Three Forks #8, Brackett Bench, Cedar Creek, North Fork, Antelope Springs and Black Rock Pocket allotments. These populations migrate from northern Nevada where they spend the rest of the year. These elk were transplanted in 1989 in the Jarbidge Mountain in Nevada. Depending on snow conditions in late spring, elk may calve in aspen stands associated with riparian area.

Elk winter habitats are lower elevation areas of sagebrush – grassland and mountain shrub communities. Elk are generalist feeders able to consume greater quantities of low quality forage than deer. Winter diets consist of grasses and shrubs:

- Grasses: Idaho fescue, bluebunch wheatgrass, Blue grass, Cheatgrass
- Shrubs: aspen, serviceberry, chokecherry, bitterbrush, mountain big sagebrush, snowberry, curl leaf mahogany .

Mule Deer

Mule deer population numbers and trends are down throughout most of the West including Idaho and in this area. The population of mule deer is greater in the southern portion of the JFO area, which provides better habitat conditions due to better moisture regime and varied and productive plant communities. Both winter and crucial winter range are primarily found in the southern portion along the Bruneau and Jarbidge River Canyon and on the west side of the JFO area. Allotments with deer winter range are found in Table 3.16 and Figure 3.9.

Figure 3.9
Wildlife Habitat

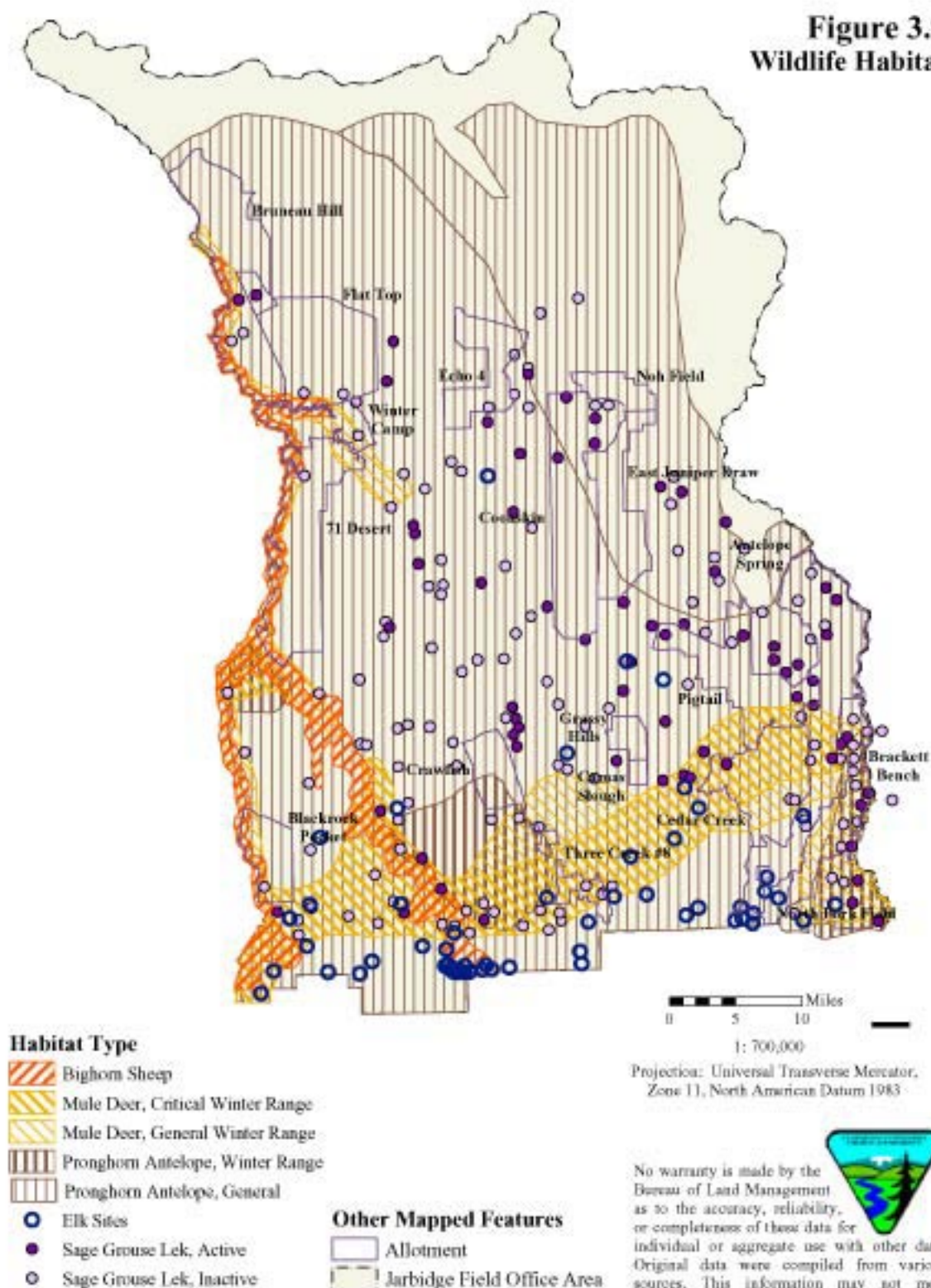


Table 3.16 - General and Crucial Winter Range by Allotment for Mule Deer

Allotment	General (acres)	Crucial (acres)
Antelope Springs	5,425	5815
Blackrock Pocket	1,960	3930
Brackett Bench	16,580	215
Bruneau Hill	10,460	-
Cedar Creek	7,450	17,040
Flat Top	1,410	-
Pigtail Butte	415	5,085
Wintercamp	7,710	-
71 Desert	10,820	-
Three Creek's #8	1,440	4,195
TOTAL	63,670	36,280

Optimum habitat for mule deer consists of thermal and hiding cover, foraging, watering and fawning areas including the amount and arrangement of each of these. Quality cover and forage areas are as important on other seasonal ranges as they are on winter range. Foraging preferences change with plant community phenology throughout the seasons of the year and are highly dependent on rainfall amounts, as well as timing, succulent forage is highly preferred. A diversity of plant communities and species maintain forage quality, quantity and availability over the seasons. Deer are both selective and opportunistic feeders, being both grazers and browsers, in suitable habitats and throughout the seasons. Forbs are highly important when available during the growing season. Some key forage plants found within the area include:

- Grasses: cheatgrass, Sandberg's bluegrass, Idaho fescue bluebunch wheatgrass, and Crested Wheatgrass
- Forbs: phlox, dandelion, salsify, prickly lettuce, aster, balsam root, and hawksbeard
- Shrubs: mountain big sagebrush, low sagebrush, bitterbrush, curlleaf mahogany, chokecherry, and four-wing saltbush.

Higher mule deer numbers are usually found in habitats that are in sub climax ecological condition, where edge is optimized and there is a mosaic of various plant communities and successional stages of appropriate size. In a study on deer diets on an annual basis in southwestern Idaho (Trout 1968), deer diet consisted of 66 percent trees and shrubs, 22 percent grass, and 12 percent forbs. Grasses are generally eaten in

the spring and fall if there is green up. Forbs are mostly eaten in the late spring and summer and shrubs are primarily eaten during the fall and winter.

Pronghorn Antelope

Pronghorn occur in all allotments and are widely distributed (Figure 3.9). They occupy a number of habitats with general shorter shrubs and an abundance of herbaceous vegetation. They prefer large, open areas and avoid small areas that are fenced.

Pronghorn thrive favorably on rangelands in a subclimax vegetative condition (Kindschy 1982). A variety and diversity of plant communities and habitats are preferred, such as meadows, intermittent lake beds, wildfire burns, and short vegetation structure. Large expansive areas of low rolling terrain are required.

In sagebrush-grassland ranges that maintain high pronghorn densities, ground cover is 50 percent vegetation and 50 percent non-vegetation and produces 500-1000 pounds of forage per acre. Optimum vegetation should consist of a mixture of:

- 40-60 percent grass (5-10 species)
- 10-30 percent forbs (20-4 species)
- 5-10 percent shrubs (5-10 species)

Pronghorns exhibit a strong preference for forbs and available, succulent plants on a year round basis.

Plant communities with heights less than 24" and preferable around 15" are most suitable (Yoakum 1974, 1982). In the Great Basin pronghorn forage on at least:

- 10 species of grasses
- 70 species of forbs
- 20 species of shrubs

Pronghorn utilize, when available, approximately 7 percent grasses, 22 percent forbs and 71 percent shrubs on a year long basis (Yoakum 1982). Water should be distributed every 3-4 miles. Some of the preferred forage species are: (Yoakum 1970, Einarsen 1948):

- Grasses: cheatgrass, bluebunch wheatgrass, Idaho fescue, and Blue grass.
- Forbs: False dandelion, dandelion, buckwheat, asters, filarce, lupine, biscuit root, salsify, phlox, prickly lettuce, alfalfa, and sweet clover.
- Shrubs: Big sagebrush, low sagebrush, silver sagebrush, winter fat, rabbitbrush, and bitterbrush.

Crucial Winter Range for pronghorn antelope occurs on a total of 15,395 acres within four allotments:

- Antelope Springs (970 acres)
- Brackett Bench (10,480 acres)
- Crawfish (3,290 acres)
- Three Creek #8 (855 acres)

See Section 3.12 for discussions of bighorn sheep, sage grouse, raptors, and other special status species.

3.11.3 Other Wildlife

There are approximately 207 bird species present during some season of the year in the JFO AREA. These include a variety of shorebirds, waterfowl, raptors, songbirds and upland game birds. Upland gamebirds that are hunted in the area are California quail, mourning doves, pheasants, sage grouse, gray and chuckar partridge. Blue grouse have been observed in the southern portion of the area across the Nevada border near the Jarbidge Mountains. Many of the raptors are migratory and arrive in the area in March with the onset of pair bonding and territory establishment and extends into August

when fledged young are no longer fed. Migrations south are in September and October. Most of the songbirds too are migratory arriving April and departing August-September. Territory establishment, nesting and raising of young occurs between April and August. Species such as brown-headed cow birds do not make their own nests or hatch their own young. They are nest parasites allowing other birds to hatch and feed their young. Locally cowbirds parasitize nests from late April into August depending upon the host species and the number of clutches the host species lays in a season. The majority of songbirds in the grasslands, sagebrush steppe, and riparian zones are known to function as a host for cowbirds.

Many other bird species occur in more than on habitat. The following is a general habitat association for those species. Species most commonly associated with grasslands include the western burrowing owl, short-eared owl, Northern harrier, horned lark, western meadowlark, long-billed curlew, lark sparrow, Savannah sparrow and grasshopper sparrow. Several grassland species (short-eared owl, Northern harrier, grasshopper sparrow, western meadowlark, and Savannah sparrow) require large blocks of habitat that are un-grazed or slightly grazed with residual grass from 8-10" tall for nesting (Swanson 1998). Good cover is provided for many other birds from grass habitats with two or more years of accumulation of biomass that prefer taller herbaceous vegetation. To minimize impacts Dechant et al (1999) stated: When possible, disturbances including grazing should be scheduled to avoid the breeding season (April through July). To meet multiple species needs, relatively large block of habitat need to be managed as a unit. Long-billed curlews, horned larks, and burrowing owls prefer to nest in more open (grazed) areas. Curlews, however move their broods to areas of more cover, whereas, burrowing owls forage over areas of taller vegetation.

3.12 Special Status Wildlife Species

Threatened, endangered, and candidate species are identified by the U.S. Fish and Wildlife Service, under the provisions of the Endangered Species Act (ESA). Sensitive species are identified by BLM as needing special

management to prevent them from being listed in the future. "Watch" species are not presently designated as sensitive species, but may be added to the sensitive list in future years.

Within the project area there are a total of 29 special status species, including 1 snail, 5 mammals, 15 birds, 2 reptiles, 4 amphibians and 2 fish. Of the 29 special status species, one is endangered, two are threatened, one is a candidate, and 25 are BLM sensitive species. There are also 18 species on the "watch" list, which includes 3 mammals and 15 birds. All of the terrestrial special status species and "watch" species are listed in Appendix C, along with their habitat needs and distribution.

More specific information related to special status terrestrial species is presented in the following descriptions. A letter in parentheses is used in each heading to indicate the status of the named species; threatened species are indicated with the letter "T" and sensitive species are indicated with the letter "S". More details on the special status aquatic species are presented in Section 3.10, Fisheries and Aquatic Resources.

Bald Eagle (T)

The bald eagle is the only ESA-listed terrestrial wildlife species in the vicinity of the study area. Bald eagles are migratory birds of prey. They are known to winter along the Snake River Canyon, north of the study area. No roosts or nests are known in any of the 18 allotments in the study area.

California Bighorn Sheep (S)

Bighorn sheep generally inhabit remote, steep, rugged terrain such as the Bruneau and Jarbidge river canyons, which are adjacent to but outside the boundaries of the 18 allotments in the study area (Figure 3.9). The preferred plant communities are usually low in stature and open in structure and stable, at or near climax. Sagebrush/grassland steppes and cold desert shrublands are the dominant types. Both summer and winter ranges must provide freedom from disturbance, proper location of forage, escape terrain (large rocky terraced cliffs and outcroppings), available water (within one mile) and suitable lambing areas (VanDyne 1983). Bighorns prefer to forage on grasses and forbs but also utilize shrubs, depending on the environment. Important forage species in the study area are:

- Grasses: bluebunch wheatgrass, Idaho fescue, Indian rice grass, Thurber's needlegrass, Sandberg's bluegrass, cheatgrass, and Crested Wheatgrass.
- Forbs: buckwheat, biscuit root, arrowleaf balsamroot, penstemon, and phlox.
- Shrubs: low sagebrush, winterfat, four-wing saltbrush, and bitterbrush

The local bighorn sheep population is recovering from a decline (about 40 bighorns) in the late 1990s. The present population is estimated to be 100 bighorns. Bighorns are found in 5 of the 18 allotments: Bruneau Hills, Flat Top, Winter Camp, 71 Desert, and Blackrock Pocket. They inhabit the canyons and also use the immediately adjacent uplands. The Bruneau/Jarbidge River Area of Critical Environmental Concern (ACEC) was designated in the 1987 Jarbidge RMP primarily to address bighorn sheep habitat. The majority of bighorn sheep are found in the southern half of the ACEC. See Section 3.15, Special Designation Areas, for additional information about the ACEC.

Spotted Bat, Townsend Big-Eared Bat, and Other Bat Species (S)

In general, bats use water between night-time foraging bouts. They are generally found along the main canyon complexes (Bruneau, Jarbidge, Clover Creek, Salmon Falls Creek, Cedar Creek, etc.) and forage on a variety of nocturnal insects in the uplands. No winter roost sites for hibernating bats have been documented in the area.

Pygmy Rabbit (S)

Pygmy rabbits are sagebrush obligates. There are a few reports of pygmy rabbits in the study area. Based upon the reports, pygmy rabbits may be found in the Pigtail Butte, Cedar Creek, and Echo 4 allotments.

Kit Fox (S)

Kit foxes are primarily nocturnal and are found in arid areas. The last reported observation within the vicinity of the study area was in the Snake River Canyon near Bliss Dam in 1993. Historically they inhabited the Bruneau area. No surveys have been done in the JFO.

Sage Sparrow/Brewer's Sparrow (S)

These songbirds are widely scattered across the JFO area and are sagebrush obligates. They nest in sagebrush areas where shrub height is adequate. They are generally not found in low sagebrush habitats above 7,000 feet in elevation. Both species have been detected in sagebrush patches greater than one acre in size.

Greater Sage Grouse (S)

Sage grouse were originally spread over most of the JFO area. They are a sagebrush obligate species. Large wildfires, conversion of native range to introduced grass species, and invasion of exotic annuals such as cheatgrass and past livestock grazing practices have resulted in reduction, degradation, and fragmentation of habitat. Water pipelines built to improve livestock distribution have brought livestock into areas not previously grazed. In some cases this has reduced the herbaceous nesting cover within 0.5 miles of the water troughs. Sage grouse nesting occurs in the southern two thirds of the JFO area, where adequate nesting cover is present (Figure 3.9). The area in the vicinity of Brown's Bench east to Flat Creek has been identified as a stronghold area for sage grouse.

Six of the 18 allotments (Camas Slough, Grassy Hills, Crawfish, North Fork Field, East Juniper Draw, and Noh Field) have no known leks, but have leks within a 2-mile radius. Based on available information, over the last 20 to 50 years there has been an 85 percent reduction in the number of sage grouse male attendance at known leks (2465 down to 373 males), and a subsequent overall population reduction. The number of occupied leks decreased 37 percent over the last 20 to 50 years from 120 to 44 leks (Table 3.17). This downward trend is not unique to this area but is widespread in sage grouse habitats throughout the West. The impacts that affect the sage brush-steppe communities are many and most likely work in synergy. They include large wildfires, habitat fragmentation, seeded grass monocultures, overgrazing of sagebrush habitats, loss of forbs in both meadows and uplands, drought, invasions of exotic plants like cheat grass over large areas, and conversion of sagebrush habitat to agricultural uses.

In the study area the peak of hen attendance at leks is usually during the last week of March and the first week of April, when the majority of breeding occurs. A few hens sporadically attend

leks into late April. Egg laying occurs in April into early May, with egg hatching usually in the latter part of May to early June.

Sage grouse prefer large expanses of gently rolling hills (<30 percent slope), with a mosaic of sagebrush steppe communities in diverse seral states and having high plant composition complexity, within the 10-16" annual precipitation zones. They prefer low sagebrush and mountain big sagebrush communities, but will also use Wyoming big sagebrush communities. Stands converted to cheatgrass and/or seedings lack necessary nesting, escape, and winter cover for optimal habitat, and they are limited in forbs for several decades.

Habitat components that fulfill yearly life requirements are:

1. Lek: strutting grounds found in open areas surrounded by sagebrush where males display in late February through early May to attract females for breeding. Leks and approximately a two-mile radius around the lek are the focal point of the breeding and nesting complex. Areas larger than the two-mile radius may be necessary where sagebrush communities are heavily fragmented.
2. Nesting and early brood rearing habitat: used in late March through June. Requires suitable nesting cover and food availability and sagebrush stands with a robust understory of grasses and forbs. Bluebunch wheatgrass is preferred because of its growth form. An ample variety, distribution, and abundance of forbs, and insects such as ants and beetles, is needed as food for chicks.
3. Late brood-rearing habitat: late June through October. Preferred habitat includes healthy riparian, wet meadows, and upland plant communities with available food, primarily forbs such as:
 - Yarrow (*Achillea*)
 - Buckwheat (*Eriogonum*)
 - Dandelion (*Taraxicum*)
 - Prickly lettuce (*Lactuca*)
 - False dandelion (*Agoseris*)
 - Phlox (*Phlox*)
 - Paintbrush (*Castilleja*)

- Salsify (*Tragapogon*)
- Hawksbeard (*Crepis*)

Forb abundance, diversity, and availability are crucial. Close proximity to escape cover (sagebrush) is also important.

4. Winter habitat: November to early March. South-facing and/or wind-swept gentle slopes. Sagebrush (for cover and food) must be available during periods of deep snow.
5. Linkage habitat: corridors joining key habitats. Large-scale, intact sagebrush communities are optimal.
6. Availability of year-round free water that is abundant and well distributed (1-3 miles apart). This requirement often limits distribution and density of grouse populations (Henderson 1984, Hill 1984.)

Columbian Sharp-Tailed Grouse (S)

Historically, Columbian sharp-tailed grouse were present throughout the study area. IDFG recently introduced sharp-tails back into the House Creek area on private land. The reintroduced grouse have been seen in the Brackett Bench, Cedar Creek, Antelope Springs, North Fork Field, Grassy Hills, and Camas Slough allotments. At least one female successfully nested in a Crested Wheatgrass seeding in the Cedar Creek Allotment. Idaho Fish and Game followed radio-tracked birds upon their release.

Sharptail habitat is characterized by bunchgrass and sagebrush steppe communities in the 12-20" precipitation zone with large expanses of gently rolling terrain. Grouse select for rangelands in good to excellent ecological condition with a small percentage of the landscape in tall, deciduous shrub thickets provided by shrubby riparian zones, mountain shrub patches and aspen stands. The rangeland communities provide nesting and brood rearing habitat while riparian zones and mountain shrub thickets are essential for over wintering. Rangelands dominated by perennial bunchgrasses such as bluebunch wheatgrass and Idaho fescue and a shrub layer of sparse big sagebrush and bitterbrush are sought. Serviceberry, chokecherry, and snowberry are particularly valuable mountain shrub species while aspen and willow are important riparian species for both

food and cover. Columbian sharp-tailed grouse are often referred to as foothill grouse.

Some important food plants are bluebunch wheatgrass, balsamroot, clover, dandelion, prickly lettuce, salsify, elderberry and junipers.

Mountain Quail (S)

Mountain quail have been recently observed near the headwaters of the Jarbidge River. They were documented in the early 1990s in the Bruneau Canyon in the Black Rock Pocket Allotment. Historically, mountain quail were fairly widespread in the southern part of the JFO area (Three Creek, Cougar Creek, Cherry Creek, Cedar creek, House Creek, Deer Creek, China Creek, Player Creek, Brown's Creek). Allotments where this species was found include Cedar Creek, Antelope Springs, North Fork, Brackett Bench, and Three Creek #8.

Mountain quail, as the name implies, are generally associated with higher elevation areas and plant communities found in mountainous areas. These quail are associated with mountain brush and riparian habitats along creeks. They require dense brushy cover and tend to use steep canyons of 20 percent or greater. They are usually within a short distance of escape cover. Nearby water sources are essential, especially in the summer months. Habitats in which they are found in semi-arid environments are the sagebrush-steppe, shrubby riparian areas, mountain big sagebrush, and shrub/aspen communities. The common characteristic of these communities is the presence of a canopy of medium-height to tall shrub cover (4-10 feet tall and 25-50 percent coverage) with a relatively sparsely vegetated understory (up to 50 percent herbaceous cover).

Within the study area, this type of habitat is associated with mature riparian shrub and mountain shrub communities. As winter snows accumulate in the higher-elevation habitats, birds move to lower, generally riparian, areas to over winter. Riparian areas also serve as protected travel lanes for moving up and down the mountain as weather patterns dictate. Riparian shrubs are an important source of both food and cover.

Species important to mountain quail in the area include red osier dogwood, rose, currant, snowberry, serviceberry, chokecherry, aspen and

elderberry. A variety of shrubs found in riparian areas that produce berries or buds and persist on plants through mid-winter are crucial. Adults consume about 96 percent vegetative matter such

as leaves, buds, flowers, fruits and seeds and about 4 percent animal matter. Seeds of weeds, grasses, legumes are eaten. Birds commonly feed on clover (*Trifolium*), fringecup bulbs

Table 3.17 - Measurements of Seasonal Habitat Features for Sage Grouse

Habitat Features	Indicators	Preferred Habitat
Nesting Cover and Early Brood Rearing Habitat		
Nesting Cover	Big Sagebrush canopy	>15 percent but <25 percent
	Big Sagebrush height	15-30"
	Herbaceous height	>7", preferably 8-10"
Nest Cover and Food	Perennial grass canopy	>15 percent
	Forb canopy	>10 percent
	Forb richness	High
Late Brood Rearing Habitat		
Food	Riparian/wet meadow community	Mesic-wetland plant species dominate
Cover and Food	Riparian/wet meadow stability	Vegetative cover dominates site
Food	Forb availability in upland and wetland areas	Succulent forbs available in terms of distribution and plant structure
Cover	Proximity of sagebrush cover	Sagebrush cover is adjacent (<100 yards) to brood rearing areas
Winter Habitat		
Cover and Food	Sagebrush canopy cover	10-30 percent
	Sagebrush height	Normal height relative

Source: BLM, Idaho 2000; Connolly 2000.

(*Lithophragma*), chickweed (*Holosteum*), and microsteries (*Microsteris*) (Wash. Dept. of Wildlife 1993) (Idaho Mountain Quail Conservation Plan 1998).

Peregrine Falcon (S)

Over the years there have been scattered reports of peregrine falcons in the Bruneau, Jarbidge and Salmon Falls canyons. Adults with young have been reported near the Bruneau/Jarbidge confluence and at the backwaters of Salmon Falls Creek Reservoir.

Prairie Falcon (S)

Prairie falcons are usually found within 5 miles of many canyons. This species nests in the cliffs associated with the canyons and forages in the canyons and adjacent upland plateaus.

Ferruginous Hawk (S)

Ferruginous hawk nests have been documented in the Bruneau Hill, Camas Slough, Pigtail Butte, Coonskin, and East Juniper Draw allotments. Ferruginous hawks have also been observed in many of the other allotments. There are just over

40 known nest sites for ferruginous hawks. Nest success is higher when nests are in junipers rather than on the ground.

Loggerhead Shrike (S)

Loggerhead shrikes use a number of habitats including black greasewood, western juniper stringers, and areas with tall big sagebrush. Locally, loggerhead shrikes are usually found in areas below 6,000 feet in elevation.

Northern Goshawk (S)

Northern goshawks need large trees for nesting. No nests have been documented in the study area.

Lewis Woodpecker (S)

Lewis woodpecker nesting has been documented to occur in aspen in the southern portion of the study area. They also have been found to nest in wooden power poles and other large-diameter wooden posts in sagebrush habitats. Allotments where Lewis woodpeckers have been observed include Brackett Bench, North Fork, Cedar Creek, and Antelope Springs.

White-faced Ibis (S)

The white-faced ibis inhabits wetland areas such as Camas Slough Reservoir. None have been observed in the study area.

Willow Flycatcher (S)

This species has been found in a few riparian zones where taller willows and aspen are the dominant form of vegetation.

Calliope Hummingbird (S)

Calliope hummingbirds have been observed in areas with riparian zones, aspen stands and meadow areas where flowers are abundant and diverse.

Mojave Black-collared Lizard (S)

Mojave black-collared lizards have been documented in the Bruneau Hill Allotment. They use areas with boulders for territorial displays.

Western Groundsnake (S)

This species has been found in the Bruneau Hill Allotment. Groundsnakes are typically nocturnal. They are also fossorial and are usually found near areas with sands to fine sandy loams. They use talus slope areas for hibernation, but also hibernate in small mammal burrows.

For additional information on the species addressed in this assessment, plus information on the "watch" species, see Appendix F.

3.13 Cultural Resources

Cultural resources are defined as those sites, structures, landscapes, districts, objects, records and lifeway skills that are of importance to a culture or community for historic, scientific, traditional, or religious reasons. Cultural resources are non-renewable and are tied to places, persons, events, or practices of social custom and traditional skills. Federal statutes and regulations require federal agencies to inventory, assess, protect and manage cultural and historic properties, including, among others, the National Historic Preservation Act (NHPA, 1966, as amended), National Environmental Policy Act (NEPA, 1969, as amended), Federal Land Policy and Management Act (FLPMA, 1976), Archaeological Resources Protection Act

(ARPA, 1979, as amended), and the Native American Graves Protection and Repatriation Act (NAGPRA, 1990).

Southwestern Idaho, including the JFO area, has a wealth of prehistoric and historic archaeological sites and areas of traditional and sacred importance to Native American tribes (Meatte 1990; Plew 2000; Reid 1995; Young 1984). Recognition of this important cultural record and mandates for its preservation are incorporated in general and JFO BLM guidelines (USDI BLM 1987a, 1987b). Several complexes of unique prehistoric and proto-historic sites (Table 3.18) are also proposed for additional recognition through nomination to the National Register of Historic Places (NRHP).

Table 3.18 is a compilation of the types of cultural resource sites previously recorded on the eighteen allotments considered in this EA collated from data for BLM lands (private, state and other agency lands are not included in this listing) held by the Idaho State Historic Preservation Office (SHPO). Most of these sites have not been assessed for their eligibility to the National Register of Historic Places (NRHP), but many represent components of cultural resource complexes or districts that may be eligible. Prehistoric archaeological sites, documenting human occupation on the JFO area beginning around 10,000 years ago, include isolated finds of diagnostic tools or other materials, stone manufacturing and short- and long-term residential sites, stone features, and rock art. They are often associated with landscape features or resource areas such as rockshelters and overhangs, canyon rims and ridge tops, stone tool sources, permanent and intermittent water, and game trails.

Historic sites represent Euro-American exploration, settlement, and stock-raising and include isolated artifacts, dwellings and other built structures, corrals, trash dumps, water storage and control features, and roads/trails.

Prehistoric/historic sites are those with mixed components or elements of uncertain origin, such as some rock alignments and cairns, and altered landscape features.

This data is an indication of the archaeological richness of the southwestern Idaho canyon and plateau environment and the numbers and types of sites that are known and expected on the JFO.

The numbers probably underestimate site abundance due, in part, to the lack of large scale intensive inventories for much of the area.

3.14 Paleontological Resources

Fossils are the preserved remain of plants (leaves, seeds, cones, twigs, pollen), vertebrate and invertebrate animals (bones, shells, insects), and traces (burrows, tracks, dung) of former life. Paleontology is the discipline, based in geology and biology, that is concerned with the history of life on earth through the study of fossils. Fossils (bones, teeth, shells, fossilized wood) are studied to understand the chronology and ecological environments of the past (Marcot et al. 1998:63-73). Paleontological resources can consist of a single fossil or fossil-bearing strata many kilometers in extent and the information that can be gained from their geologic context, and animal and plant remains associated with prehistoric human occupation sites.

Although paleontological resources do not receive the same high level of protection afforded by state and federal law and regulation to cultural resources (archaeological and historic sites, traditional cultural properties), the BLM is mandated to manage fossils under the Federal Land Policy and Management Act (FLPMA, 1976), and the National Environmental Policy Act (NEPA, 1969, as amended) in recognition of their non-renewable scientific, educational, and popular interest value. Idaho also protects vertebrate fossils under the state historic preservation act (Idaho Code, Chapter 41); both agencies require permits for the scientific recovery of fossils on federal and state lands and have penalties for illegal collection.

The landscape of southwestern Idaho is formed by massive volcanic deposits – informally grouped as the Idavada volcanics – underlain by welded volcanic ashes (rhyolite) and lava flows of the Miocene Epoch (24 – 6 million years ago) followed by basalt flows of the Pliocene Epoch (6 – 2 million years ago) and subsequently modified by erosion and faulting (Bonnichsen 1982; Bonnichsen, et al. 1984a, 1984b; Jenks, et al. 1998). During this time much of the area from Twin Falls west into southeastern Oregon was occupied by Lake Idaho. This large lake was fed by streams from the highlands to the south and northeast and in existence until the ancestral Snake River drained the lake by

breaking through to the north, forming Hell's Canyon, about 1.5 – 1 million years ago during the Pleistocene Epoch. Throughout the area fossils of aquatic organisms are found in lake deposits and terrestrial fossils of vertebrates and plants are found associated with fine sedimentary interbeds within the volcanic deposits and in stream, floodplain, and lake sediments such as clays, sands, and gravels of the Idaho Group of rock units. Some of these ancient deposits still cover portions of the terrain as lag gravels and dune sands and are exposed by erosion in stream channels.

Southwestern Idaho has important and internationally known fossils, such as the horses and other species at Hagerman Fossil Beds National Monument in the late Pliocene 3.5 – 2.5 million year old Glens Ferry Formation (Akersten and Thompson 1992; McDonald 2002) to the northeast of this study area and in the Quaternary deposits that formed during and after the Ice Age along the Snake River. To date, 716 vertebrate fossil sites have been recorded for all of Owyhee County and 129 for western Twin Falls county, most within the Hagerman area, which are an indication of the richness of the paleontological record of southwestern Idaho.

For the JFO area as a whole, a total of 431 paleontological sites have been identified for special management consideration (USDI BLM 1987a:II-9); some of these sites are now the responsibility of Hagerman FBNM.

Although Hagerman may represent, as a consequence of a series of unique geologic and preservational events, a relatively rare concentration of fossils, the abundance and diversity of fossils here point to the potential for other fossil discoveries within geologic units of the Glens Ferry and Idaho Group across southwestern Idaho.

The vertebrate paleontology databases and files of the Earth Sciences Division, Idaho Museum of Natural History (IMNH), Pocatello, ID, were searched for information to identify specific localities formally recorded on and to predict the occurrence of paleontological resources within the JFO AREA allotments (Other institutions and agencies may have information, localities, and research interests in the Jarbidge area, but these were not sought for this overview).

Table 3.18 - Cultural Resources Recorded on the Eighteen JFO Area Allotments

Allotment	Prehistoric	Historic	Prehistoric/ Historic
Bruneau Hill	155	241	16
Flat Top	147	303	27
Winter Camp	22	6	0
71 Desert	87	36	1
Blackrock Pocket	8	2	1
Echo 4	30	30	0
Noh Field	17	4	2
Coonskin AMP	17	13	0
East Juniper Draw	43	10	1
Grassy Hills	4	1	0
Camas Slough	0	0	0
Crawfish	1	0	0
Three Creek #8	5	0	0
Antelope Spring	64	7	2
Pigtail	14	3	0
Cedar Creek	41	10	1
Brackett Bench	119	17	2
North Fork Field	2	0	0

There are three vertebrate paleontology localities (IMNH VP 171, 176, 1137) on the northwest boundary of the Bruneau Hill allotment, east of the Bruneau River, and three just outside (west) of the boundary in the lower Bruneau Valley area (IMNH 705, 707, 710). These localities and several others recorded just west of the Bruneau River and Mid-western boundary of Bruneau Hill Allotment are from the late Miocene-early Pliocene Hemphillian Land Mammal Age (approximately 9-4.5 million years ago) and commonly include fossil turtle, horse, camel, and rhinoceros.

No IMNH localities are recorded on Coonskin AMP or Noh Field Allotments, but one site (IMNH 854) of late Miocene-early Pliocene age located about 4 miles north/northwest of their northern boundaries in the Notch Butte area has yielded fossils of extinct species of mice, squirrel, pocket gopher, marmot, badger, camel, and rhinoceros..

No IMNH localities are recorded on or near Flat Top, Winter Camp, 71 Desert, Blackrock Pocket, Echo 4, Juniper Draw, Grassy Hills, Camas

Slough, Crawfish, or Three Creek No. 8 Allotments.

3.15 Special Designation Areas

Five of the 18 allotments analyzed in this EA include any portion of a Wilderness Study Area (WSA), Area of Critical Environmental Concern (ACEC), National Conservation Area (NCA), or the Saylor Creek Air Force Range (SCR) (Figure 3.10). These five allotments are 71 Desert, Blackrock Pocket, Bruneau Hill, Flat Top, and Winter Camp, all located along the Bruneau River Canyon on the western side of the Jarbidge Resource Area. The other 13 allotments do not include any special designation areas.

Wilderness Study Areas

As defined by Section 2(c) of the Wilderness Act of 1964, wilderness is an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions. Furthermore, the imprint of man's work is substantially unnoticeable, the area has outstanding opportunities for solitude, is of sufficient size as to make practicable its preservation and use in an unimpaired condition, and may contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) required BLM to review public land roadless areas of 5,000 acres or more identified as having wilderness characteristics as described previously. BLM completed this Wilderness Study Area (WSA) review and, as provided for in the law, submitted recommendations to the Secretary of the Interior regarding which portions of the WSAs were suitable for designation as wilderness. Subsequently, BLM's recommendations were forwarded to the President and submitted to Congress.

Pending Congressional action on either releasing the WSAs or designating them as wilderness, FLPMA protects all lands within WSAs from impairment of their wilderness suitability. BLM's Interim Management Policy and Guidelines for Lands under Wilderness Review (BLM Manual Handbook H-8550-1) provides

more detailed guidance regarding required management of WSAs.

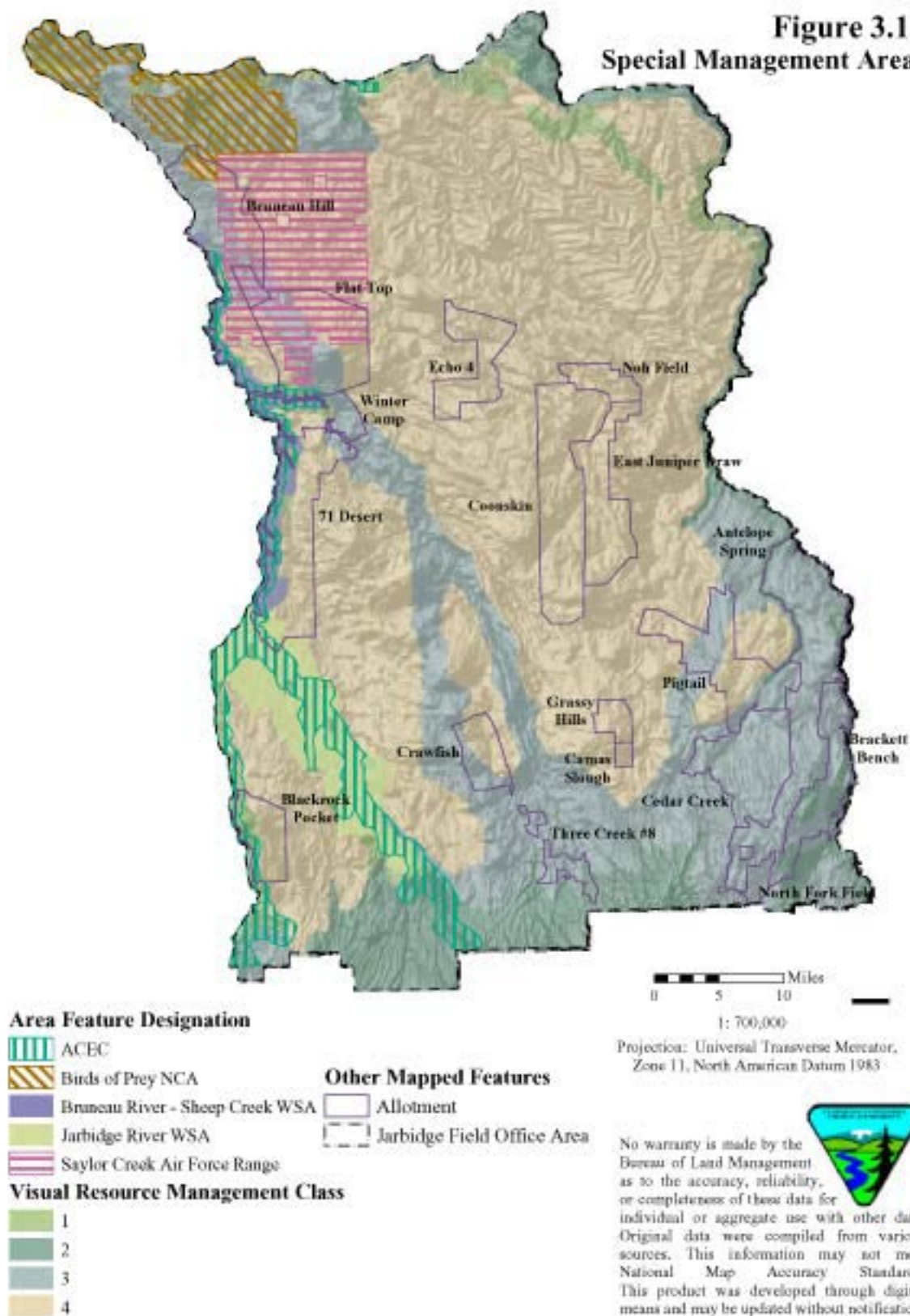
As shown in Figure 3.10, two WSAs partially overlap four of the 18 allotments analyzed in this EA. These WSAs are the Bruneau River-Sheep Creek WSA (ID-111-17) and the Jarbidge River WSA (ID-17-11). They are comprised of the lands within the large, rugged Bruneau and Jarbidge river canyons, plus the roadless areas on the adjacent plateaus. A detailed description of these WSAs is presented in the Jarbidge Wilderness Final EIS (1987). Because the canyon areas are so rugged and steep, they are practically inaccessible to livestock, and are excluded from the allotment boundaries. These rugged canyon areas (rim-to-rim), which are outside the grazing allotments, were the only portions of the WSAs recommended as suitable for wilderness designation.

The plateau portions of the WSAs, found to be non-suitable for wilderness designation, are still protected from wilderness impairment, as mentioned previously. These portions of the WSAs include approximately 14,160 acres in the 71 Desert Allotment, 6,818 acres in the Bruneau Hill Allotment, 594 acres in the Flat Top Allotment, and 3,094 acres in the Winter Camp Allotment. The total of 24,666 acres of WSA lands is about 20 percent of these four allotments, and about 6 percent of the total area in the 18 allotments analyzed in this EA.

Area of Critical Environmental Concern

An ACEC is defined in FLPMA as an area within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect human life and safety from natural hazards. The Bruneau/Jarbidge River ACEC was designated in 1987, as part of the Jarbidge RMP, primarily to protect important habitat for California bighorn sheep, which is a sensitive species requiring special management. The ACEC also protects important cultural resource, geologic, scenic, and other natural values.

Figure 3.10
Special Management Areas



The ACEC includes 84,111 acres of land comprised of the Bruneau, Jarbidge, Arch and connected side canyons, plus a strip of land adjacent to these canyons that is roughly one-half to one mile wide (Figure 3.10). The rim-to-rim rugged canyon areas are not included within grazing allotments; however, the strips of land on the plateau area along the canyon rims comprise parts of five of the 18 allotments analyzed in this EIS. The five allotments with their approximate acreages of ACEC lands in parentheses are: 71 Desert (7841), Blackrock Pocket (2744), Bruneau Hill (5529), Flat Top (1184), and Winter Camp (3549). The total of 20,847 acres of ACEC lands is about 14 percent of these four allotments, and about 5 percent of the total area in the 18 allotments analyzed in this EA.

The Jarbidge RMP identifies special management requirements for the Bruneau/Jarbidge River ACEC that relate to livestock grazing management in the allotments previously listed. For example, (1) management priority for the canyons is for bighorns and other wildlife; (2) where necessary to prevent livestock access to canyons, livestock management measures such as salting or fencing would be implemented; (3) livestock water sources would not be developed within one mile of bighorn sheep habitat unless adverse effects can be mitigated; and (4) the protection of threatened, endangered, and sensitive plant species would be given priority over livestock and recreation use.

Wild and Scenic Rivers

The Wild and Scenic Rivers Act (Public Law 90-542) provides for Congress to designate certain river segments that are generally free-flowing and have outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values that warrant protection. Portions of the Bruneau and Jarbidge rivers have been studied, nominated to the President, and recommended by the President to Congress as suitable for WSR designation (Figure 3.10). BLM manages these river segments to protect the values that qualify them for designation. The river segments are located within the large rugged canyons that are adjacent to some of the allotments but are actually excluded from their boundaries. However, livestock currently have access to a short section of the Bruneau River by straying down the Roberson Trail from the Bruneau Hill Allotment.

National Conservation Area

The Snake River Birds of Prey National Conservation Area (NCA) was established in 1993 by Public Law 103-64 " . . . to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area." The NCA includes approximately 485,000 acres of public land, 3,200 acres of which are located within the Bruneau Hill Allotment (Figure 3.10). Although this allotment is briefly mentioned in BLM's current NCA Management Plan (1995), the plan does not identify any management actions or guidance specifically for the allotment. The NCA law directs BLM to permit livestock grazing within the area, to the extent that it is compatible with the purposes for which the NCA was established.

Saylor Creek Range

The Saylor Creek Air Force Range (SCR) consists of 102,746 acres of public lands (Figure 3.10) that are withdrawn from the operation of the public land laws and dedicated to use by the Department of the Air Force for bombing and gunnery practice. The SCR includes a fenced exclusive use area of 12,199.57 acres where no public use is allowed. Approximately 24,400 acres of the SCR buffer (non-exclusive) area is included within the Bruneau Hill and Flat Top allotments. According to Public Land Order 4902 (1970), grazing use may be permitted on this part of the SCR at the discretion of the BLM for 60 days annually during the period of March 1 through June 15. The Air Force may authorize BLM to also permit grazing on these lands at other times of year if such use would not interfere with the military use of the lands.

3.16 Recreation and Visual Resources

Most of the allotments analyzed in this EA receive sparse, dispersed recreation use, including hunting for big game and upland birds, off-highway vehicle (OHV) use, horseback riding, hiking, camping, rock hounding, photography, and nature viewing. Visitors to this area are generally attracted by the undeveloped, unconfined, arid environment. The large, rugged Bruneau and Jarbidge River

canyons lie adjacent to four of the allotments, but are outside the allotment boundaries (Figure 3.10). Portions of the allotments located along the canyon rims are included within an Area of Critical Environmental Concern (ACEC) and/or a Wilderness Study Area (WSA), as discussed in the following section.

Cedar Creek Reservoir is a popular day-use fishing area located within Cedar Creek Allotment. This area is primarily used during the summer and fall months, and facilities (boat ramps and toilets) were installed and are maintained by the Twin Falls County Parks and Waterways Department.

The Idaho State Centennial Trail traverses the uplands from south to north in the Jarbidge Resource Area. It crosses through four of the allotments addressed in this EA: 71 Desert, Winter Camp, Flat Top, and Bruneau Hill. The local portion of the Trail was designated in 1990 as part of a 1200-mile trail system extending from Nevada to Canada. It roughly parallels the Jarbidge and Bruneau river canyons, following existing backcountry roads and trails. It is not well known, but is open for a variety of uses including horseback riding, hiking, mountain biking, and OHV use.

Visual resources are the natural (landforms, water bodies, vegetation) and man-made (buildings, fences, signs) features that comprise a landscape. As the steward of the public lands, BLM uses the visual resource management (VRM) classification system to identify the existing visual character of the landscape and define the extent and type of modification allowable. The VRM classes are delineated on Figure 3.10. VRM Class I is assigned to the most visually unique and sensitive areas, such as the Bruneau and Jarbidge river canyons and WSAs. VRM Class I is the most restrictive regarding the degree of visual changes that can be imposed by management actions. VRM Class IV, which is the least restrictive, is assigned to most of the vast desert plains in the analysis area.

3.17 Socio-Economics

The Jarbidge EA study area lies primarily within Owyhee County, Idaho, with a much smaller portion in adjacent Twin Falls County, Idaho. The Year 2000 U.S. Census was utilized in evaluating the socioeconomic conditions for both

Owyhee and Twin Falls Counties (Census, 2000). The study area is rural and remote from major towns and cities. The population is dispersed widely throughout Owyhee and the far western portion of Twin Falls County. Ranching and diverse agricultural industry are important to the socioeconomics of this area, and approximately 14 percent of the employed adults in Owyhee County are actively employed in farming, fishing, and forestry as of the year 2000 census. The University of Idaho has recently completed a study of Owyhee County's social and economic structure, and this data would be included in the environmental consequences section of this EA.

For Owyhee County, the total population in 2000 was 10,644 individuals. The median age was 32.9 years. The average household size was 2.85. For Twin Falls County, the total population in 2000 was 64,284 individuals. The median age was 34.9 years. The average household size was 2.64 (Census, 2000). Table 3.19 presents additional population statistics for the two counties.

Social Characteristics

Social characteristics for Owyhee County had 4,306 people aged 25 years and over with a high school diploma or higher degree, and 485 who had obtained a bachelor's degree or higher degree (10.2 percent). A total of 1,273 individuals were considered to have disability status in the age group 21 to 64 years old. Married individuals (15 years and older) totaled 5,041 (64 percent).

Statistics for Twin Falls County found 32,141 (81.3 percent) of the 25 years and over population had obtained a high school diploma or higher, and 4,257 (16.0 percent) had obtained a bachelor's degree or higher. A total of 6,631 individuals were considered to have disability status in the age group 21 to 64 years old. Married individuals (15 years and older) totaled 29,039.

Economic Characteristics

Economic characteristics for Owyhee County included 4,716 individuals 16 years and older in the labor force. This represented 61.2 percent of the total population in that age group. This percentage is slightly lower than the National average (U.S. 63.9 percent). Median household income was \$28,339. The number of individuals under poverty level was 1,781 or 16.9 percent of

the population. Housing characteristics revealed that 1,537 single-family owner-occupied homes exist in Owyhee County. Median house value was \$82,500. Workers in the county can be divided into private wage and salary earners (70.7 percent), government workers (14.5 percent), self-employed workers in their own businesses (unincorporated 13.9 percent), and unpaid family workers (0.9 percent).

Economic characteristics for Twin Falls County included 31,873 individuals 16 years and older in the labor force. This represented 65.6 percent of the total population in that age group. This percentage is slightly greater than the National average (U.S. 63.9 percent). Median household income was \$34,506. The number of individuals under poverty level was 8,038, or 12.7 percent of the population. Housing characteristics revealed that 12,589 single-family owner-occupied homes exist in Twin Falls County. Median house value was \$93,800. Workers in the county can be divided into private wage and salary earners (76.5 percent), government workers (13.2 percent), self-employed workers in their own businesses (unincorporated 10 percent), and unpaid family workers (0.3 percent). Table 3.20 presents occupational statistics by county.

3.18 Critical Elements Not Affected

Certain elements (resources or values) of the human environment are specifically required by statute, regulation, or executive order to be considered in all EAs or EISs. Consideration of critical elements not present or not affected by the proposed action or Alternatives may be documented in the EA or EIS as a negative declaration (see Appendix 5 in BLM NEPA

Handbook H-1790-1). To fulfill this requirement, this section documents that all critical elements have been considered, and the following were either not present or not affected by the proposed action or Alternatives: air quality concerns, prime or unique farm lands, hazardous substances or solid wastes, safe drinking water, and wild horse herd management areas. All other critical elements are addressed in this EA.

**Table 3.19 – Population Statistics for Owyhee and
Twin Falls Counties, Idaho, Year 2000.**

Race	# of Individuals (Owyhee County)	Percent of Total Population (Owyhee County)	# of Individuals (Twin Falls County)	Percent of Total Population (Twin Falls County)
Population Total	10,644	100	64,284	100
White	8,182	76.9	59,445	92.5
Hispanic or Latinos,	2,459	23.1	6,026	9.4
Black or African American	16	0.2	124	0.2
American Indian or Alaskan Native	342	3.2	457	0.7
Asian	50	0.5	487	0.8
Native Hawaiian or Pacific Islander	8	0.1	53	0.1
Some Other Race	1,756	16.5	2,421	3.8
Two or More Races	290	2.7	1,297	2.0

Source: U.S. Census Bureau, Census 2000.

**Table 3.20 - Occupational Statistics for Individuals 16 Years and
Older in Owyhee and Twin Falls Counties, Idaho**

Occupation Type	# of Individuals Employed (Owyhee County)	Percent of Total County Population	# of Individuals Employed (Twin Falls County)	Percent of Total County Population
Management, professional, and related occupations	1,087	24.8	8,193	27.4
Service occupations	583	13.3	4,969	16.6
Sales and office occupations	689	15.7	7,578	25.3
Farming, fishing, and forestry	616	14	1,324	4.4
Construction, extraction, and maintenance	536	12.2	2,944	9.8
Production, transportation, and material moving	878	20	4,908	16.4

Source: U.S. Census Bureau, Census 2000.

Section 4.0 - Environmental Consequences

4.1 Federal Trust Responsibilities and Tribal Concerns

Tribal interests include access to and preservation of cultural and traditional properties, conservation of all natural resources addressed in this document, recognition of and protection and promotion of treaty rights and reserved rights through consultation and assessment of the impacts federal actions may have on these rights.

These interests also include traditional cultural practices like hunting, trapping, fishing, gathering wild food and medicinal plants and other natural products, clean water and healthy plant and wildlife populations, as well as protection of aboriginal archaeological sites, sacred sites, and traditional cultural properties.

None of the Alternatives under consideration in this EA would create limitations on access to natural and cultural resources or interfere with treaty-protected rights. Management guidelines proposed for all Alternatives, when applied to new permits, should increase protection for natural and cultural resources compared to existing requirements.

4.2 Livestock Grazing Management

This section under the Section on Environmental Consequences will describe the livestock grazing management and the proposed permitted seasons of use under each of the four Alternatives. All four Alternatives contain the requirement to initiate grazing recommendations identified in the Standards and Guides Assessment for all allotments so these do not vary between Alternatives.

The range improvement projects identified for each grazing allotment are outlined in Table 2.2, Section 2. These projects apply to Alternatives 1 through 3 with the exception of two projects identified on the table that also apply to Alternative 4. Within the vegetative allocations proposed in Alternatives 1, 2 and 3, it was the determination of the BLM's Interdisciplinary team that the listed projects were necessary to meet the requirements of the Standards and Guides Assessment and also meet the specific management objectives identified in the 1987 RMP. The two projects that also apply to Alternative 4 are necessary to meet management objectives for that alternative as well as for Alternatives 1, 2 and 3.

The proposed trough locations expansion of water pipelines and other water developments would improve grazing management flexibility by expanding the area of available forage, decreases the number of cattle around the existing watering sites. This, in turn, may reduce the size of the area impacted around water location. Livestock congregating around watering troughs may result in excessive grazing, allowing noxious weeds and other less palatable forage to become established and may reduce bird and small mammal populations in the local vicinity.

New fences, where proposed, also would provide more management flexibility. Smaller pastures, in some cases, would allow managers to increase deferment of forage plants during the spring growing season, which would improve or maintain vigor and result in enhance production. Fencing of riparian areas, where proposed, would protect sensitive riparian areas where needed and add management flexibility.

Alternative 1 (Proposed Action)

Alternative 1 authorizes grazing operations under new permits and allocates vegetation production based on the application of a uniform formula. Temporary nonrenewable (TNR) permits would be available for areas dominated by annual vegetation on a yearly basis. Under Alternative 1, permitted AUMs would increase above the previously permitted AUMs in 11 of the 18 allotments. However, for most allotments, the increase is smaller than the amount of Temporary Non Renewable (TNR) use in the highest year such use was authorized in the past 13 years on most allotments. The proposed permitted use is lower than the calculated stocking rate for four allotments, which lie, in part, in Wilderness Study Areas (WSAs). Increases in these allotments cannot be done, as described in the Vegetation Section, without further condition and trend and utilization studies as called for in the requirements in the Interim Management Plan for WSAs. The proposed permitted use is lower than the calculated stocking rate in one allotment because of limited water availability, which restricts livestock distribution and use of the entire allotment.

Permitted AUMs remain essentially the same in seven of the 18 allotments. However, season of permitted use has been changed to year long (March 1 to February 28) for all allotments. This is intended to increase management flexibility, not to allow season-long grazing for most allotments. Many of these allotments are used in conjunction with other

allotments in rotation grazing schedules. Permitting season long use allows the BLM and the permittee maximum flexibility to schedule use in each allotment in conjunction with other allotments and to rotate season of use, when and where desirable, among allotments and pastures. Restrictive (short) permitted seasons of use do not allow such flexibility. The total number of permitted AUMs would not be exceeded. The appropriate season of grazing for each allotment would be determined in either Allotment Management Plans (AMPs) or yearly grazing plans. The period of past use is described and the impact, if any, of the new season-long permitted use is discussed in the write-up for each allotment in Section 3.0.

71 Desert

This allotment contains four pastures. It has had, and would continue to have, an “adaptive” grazing system, which allows flexibility in timing and rotation of use to adjust to observed conditions. Use would be by cattle, under a grazing management plan prescribing movements between pastures. The current permitted season of use is from December 1 to May 15 with 2,981 AUMs. Alternative 1 proposes increasing the preference to a total of 3,652 AUMs and a season of use of March 1 to February 28. The analysis of total vegetation production (Appendix A), indicated a capacity of 3,922 AUMs, but this level of increase is not permitted in WSAs without further condition, trend and utilization studies as called for in the requirements of the Interim Management Policy for WSAs. The allotment is managed in conjunction with other allotments in which the permittee holds grazing permits. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment. Grazing in the spring during the critical growing season generally is avoided for two consecutive years.

The proposed expansion of the AEC pipeline would improve livestock distribution into crested wheatgrass seeding in the northern portion of the Sheepshead Draw and Lookout Pastures. Locating troughs in seedings would also improve livestock husbandry by being a closer to the higher forage production plant communities (crested wheatgrass) and avoid congregation of cattle in riparian areas where they loaf which lowers weight gain. Installing a water gap in Clover Creek in the Lookout Pasture would also help limit loafing of livestock. Making access lanes smaller causes cattle to water and then move back out to the uplands quicker. This fence and pipeline would increase the permittee’s maintenance responsibilities which would increase costs.

Antelope Springs

This allotment contains 9 pastures and currently has permitted grazing seasons of April 6 to November 30 by cattle with 5,965 AUMs and June 1 to June 5 by sheep with 81 AUMs by sheep. The proposed stocking rate in Alternative 1 keeps the AUMs the same but changes the season of use to March 1 to February 28. Two pastures are used by cattle as winter range, 4 pastures used as spring range, two pastures as late spring/early summer range and one pasture is used as summer range. This rotation and use would be evaluated with the issuance of a new term permit. Two bands of sheep usually trail through parts of the allotment in early June. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

Blackrock Pocket

The allotment is not split into pastures and currently has permitted grazing seasons of July 1 to November 30 by cattle with 1,890 AUMs. The proposed stocking rate in Alternative 1 keeps the AUMs the same but changes the season of use of March 1 to February 28. Cattle presently graze the allotment in late summer and fall (usually September to November) and this is likely to continue. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

The proposed fence to separate the Blackrock Pocket (proper) area from the remainder of the Allotment would provide more management options to improve the area. The fence would increase the permittee’s maintenance responsibility and costs.

Brackett Bench

This allotment, containing seven pastures, currently has permitted grazing seasons of June 1 to July 31 and November 1 to November 30 by cattle with 2,386 AUMs. However, the actual grazing system is a deferred rotation system in the summer, fall and winter (March through February) in conjunction with other allotments in which the permittees have permitted use. Alternative 1 keeps the AUMs the same but changes the season of use to March 1 to February 28. Pastures are rotated in a deferred rotation manner and no pasture is grazed during the critical growth period of key species for two consecutive years. This type of use would continue and would be facilitated by the new permitted season of use of March 1 to February 28 and the implementation of Adaptive Management using the applicable management guidelines.

The construction of the fence to separate Antelope Springs Creek from the remainder of the North Pasture would eliminate a watering site for the cattle.

There are however two trough location in the interior of the North Pasture. Since this watering site is in the far northwest corner of the Allotment, stopping access to it would move grazing use to the central and southern portions of the Pasture.

Bruneau Hill

This allotment, containing six pastures, currently has permitted grazing seasons of March 1 to April 15 and November 1 to February 28 by cattle with 4,200 AUMs. Alternative 1 keeps the AUMs the same but changes the season of use of March 1 to February 28. The analysis of total vegetation production (Appendix A) indicated a capacity of 4,487 AUMs but this level of increase is not permitted in WSA's without further condition, trend and utilization studies as called for in the requirements of the Interim Management Plan for WSAs. There is no formal grazing plan but no pasture is used in the spring during the critical growth period of key grass species for two consecutive years. Moving the cattle by April 15 usually is when soil moisture is still present and allows vegetation to complete growth prior to grazing the next winter.

Camas Slough

This small allotment is not divided into pastures. The current season of use is July 1 to July 30 with 180 AUMs. Alternative 1 proposes increasing the preference to 253 AUMs and a season of use of March 1 to February 28. It is used in conjunction with Grassy Hills in the three-pasture rest rotation system. It is grazed only once in three years during the critical growth season in the spring between the boot stage and flowering of key species. Grazing during the last four years has been only for two to seven days at a time. The expansion of the permitted grazing season would make proper management of this allotment much more flexible because it is used in conjunction with other allotments.

The construction of the fence to expand the protection of the riparian area of Camas Slough would not effect livestock management to a great degree. The expansion would fence cattle away from water that is occasional available in the backwaters of Camas Slough. However there is a trough in the Allotment for which cattle can access water.

Cedar Creek

This allotment contains four pastures and has had a current permitted grazing season of June 1 to November 30 with 4,212 AUMs for cattle and 21 AUMs for sheep. Alternative 1 proposes increasing the preference to 4,443 AUMs (cattle with 4,423 AUMs and sheep with 20 AUMs) and a season of use of March 1 to February 28. The allotment is used by cattle in the late spring, summer and fall in

conjunction with other allotments in which the permittees have permitted use. The lower three pastures are grazed in a deferred rotation system. The other Pasture (Monument Springs) is deferred each year until late summer, after flowering of key grass species. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment. Sheep use in the allotment consists primarily of trailing to and from other allotments.

Expanding the water gap along Cedar Creek would not change grazing management to a measurable extent. It would also eliminate the need for riding the riparian areas so improvement can occur.

Coonskin AMP

This allotment contains eight pastures and is grazed by both cattle and sheep. Current permitted seasons of use are March 1 to May 31 and December 1 to December 30 for cattle with 3,109 AUMs and march 1 to July 31 for sheep with 1,674 AUMs (Total AUMs equal 4,783). Alternative 1 proposes increasing the preference to 5,468 AUMs (cattle with 3,486 AUMs and sheep with 1,982 AUMs) and a season of use of March 1 to February 28 and March 1 to July 31 for sheep. Use on pastures is rotated so that neither cattle nor sheep graze during the critical growth period between the boot stage and flowering of key grass species for two consecutive years. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment. Sheep use in the allotment consists primarily of trailing to and from other allotments.

Crawfish

This small allotment is divided into two pastures. The current season of use is April 1 to May 31 by cattle with 650 AUMs. Alternative 1 proposes no change in the preference AUMs and a season of use of March 1 to February 28. The grazing plan provides for periodic rest during the critical growth period in the spring between the boot stage and flowering of key grass species. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

Closing the water gap to Crawfish Crossing in the southeast portion of the Allotment and the wetland area in the northeast corner of the allotment with fence would reduce the amount of water available to cattle in the Crawfish Allotment. This situation, however, would keep cattle from congregating in these corners and distribute to the interior of the Allotment. The livestock would then be grazing where the greater amount of forage available to maximize weight gain of the calves. Additional

fence would result in additional maintenance requirements of the permittee.

East Juniper Draw

This allotment, containing six pastures, currently has permitted grazing seasons of April 1 to May 31 and October 1 to November 30 by cattle with 907 AUMs. Alternative 1 proposes increasing the preference to 2,474 AUMs in 10 years. The proposed season of use would be March 1 to February 28. The grazing plan provides for periodic rest during the critical growth period in the spring between the boot stage and flowering of key grass species. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment

Echo 4

This allotment, containing four pastures, currently has 2,309 permitted AUMs and a year long permitted grazing seasons of March 1 to February 28 with cattle so this would not change under Alternative 1. Alternative 1 proposes increasing the preference to 3,740 AUMs and a season of use of March 1 to February 28. The analysis of total vegetation production (Appendix A) indicated a capacity of 5,540 AUMs but this level of increase is limited by the accessibility to water in portions of the allotment. The allotment is grazed in fall, winter, and spring. in conjunction with the adjacent Echo 5 Allotment. There is no formal grazing system but the permittee avoids grazing a pasture during the critical growth period in the spring between the boot stage and flowering of key grass species in two consecutive years.

Flat Top

This allotment, containing four pastures, currently has a year long permitted grazing seasons of March 1 to February 28 with cattle. This would not change under this Alternative. Under Alternative 1, AUMs would increase to 5,761. The analysis of total vegetation production (Appendix A) indicated a capacity of 6,321 AUMs but this level of increase is not permitted in WSA's without further condition, trend and utilization studies as called for in the requirements of the Interim Management Plan for WSAs. There is no formal grazing system but the two permittees avoid grazing a pasture during the critical growth period in the spring between the boot stage and flowering of key grass species in two consecutive years.

Grassy Hills

This allotment, containing two pastures, currently has a permitted grazing season of July 1 to July 30 with cattle and a total AUMs of 658. Alternative 1 proposes increasing the preference to 828 AUMs and a season of use of March 1 to February 28. The

allotment is scheduled in a three pasture rest rotation grazing system in conjunction with the Camas Slough Allotment and is grazed only once in three years during the critical growth period in the spring between the boot stage and flowering of key grass species for two consecutive years. However, use in the last few years has been more as a holding area for 2 to 7 days while moving between other allotments. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

Noh Field

This allotment, containing two pastures, currently has a permitted grazing season of December 1 to December 30 with cattle and a total AUMs of 528. However, the allotment actually is used in the late spring, fall and winter (January through April). Alternative 1 proposes increasing the preference to 1,073 AUMs and a season of use of March 1 to February 28. The expansion of the permitted grazing season would allow more flexibility and allow management to conform more closely to the desired actual use of this allotment. The pastures are rotated so that no grazing occurs during the critical growth period in the spring between the boot stage and flowering of key grass species in two consecutive years.

North Fork Field

This small allotment is not divided into pastures. The current permitted season of use is July 1 to July 30 with a total of 570 AUMs. However, the allotment actually is used in the summer and fall (July through December). Alternative 1 keeps the AUMs the same but changes the season of use of March 1 to February 28. It is managed in conjunction with other allotments in which the permittee holds grazing permits. Grazing in the spring during the critical growing season between the boot stage and flowering of the key grass species is avoided for two consecutive years. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment in conjunction with the grazing on other allotments.

The construction of the fence to separate the BLM portions of Timber Canyon and rocky Canyon would lessen the intensity of livestock management. The continuance riding of these canyons every day to limit livestock use to protect riparian values would not be required once this fence is installed.

Pigtail Butte

This allotment contains nine pastures, four of which are used by sheep and five by cattle. Current permitted seasons of use are April 1 to November 30 for cattle with a total of 1,813 AUMs and March 15

to May 14 for sheep with a total of 2,146 AUMs. Cattle use the designated pastures in the allotment in late spring, summer and fall (May through December) in conjunction with other allotments in which the permittees have permitted use. Alternative 1 proposes increasing the cattle preference to 3,386 AUMs and maintaining the sheep preference at 2,146 AUMs, for a total of 5,532 AUMs. The season of use would be March 1 to February 28. Three pastures are used by sheep and cattle in a three pasture rest rotation system in spring and early summer, two pastures are used in the spring and one is rested during the critical growth period. One pasture is used for trailing. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

Installing a water gap in Cedar Creek in the South Pigtail Butte, Northeast Roseworth Reservoir and three-Mile Crossing Pastures would limit loafing of livestock. Making access lanes smaller causes cattle to water and then move back out to the uplands quicker. The livestock would then be grazing where the greater amount of forage available to maximize weight gain of the calves. It would also eliminate the need for riding the riparian areas so improvement can occur. This pipeline would increase the permittee's maintenance responsibilities which would increase costs.

Three Creek #8

This small allotment, containing four pastures, currently has permitted grazing seasons of June 1 to June 30 and October 1 to November 30 with cattle and a total of 797 AUMs. Alternative 1 proposes to maintain the current preference and the season of use would change to March 1 to February 28. No formal grazing system exists in this allotment. The expansion of the permitted grazing season would allow more flexibility in the proper management of this allotment.

Winter Camp

This small allotment, containing two pastures, currently has permitted grazing seasons of April 1 to February 4 with cattle and a total of 515 AUMs. Alternative 1 proposes increasing the preferences to 519 AUMs and a season of use of March 1 to February 28. The analysis of total vegetation production (Appendix 1, Winter Camp Allotment Assessment) indicated a capacity of 1,307 AUMs, but this level of increase is not permitted in WSAs without further condition, trend, and utilization studies, as called for in the requirements of the

Interim Management Plan for WSAs. The management system is adaptive with no formal grazing system. The expansion of the permitted grazing season would allow more flexibility in the planning of the proper management of this allotment.

The proposed expansion of the AEC pipeline would improve livestock distribution into crested wheatgrass seeding in the central portion of the West Pasture. Locating troughs in the crested wheatgrass seeding would also improve livestock husbandry by being closer to the higher forage production plant communities (crested wheatgrass) and avoid congregation of cattle in the Dry Lakes areas. This pipeline would increase the permittee's maintenance responsibilities which would increase costs.

Alternative 2

Alternative 2 allocates vegetation production based on objectives identified for the Multiple Use Areas in the 1987 RMP. Permitted grazing levels would be limited to proposed 20-year use identified in the Jarbidge RMP Record of Decision (USDI 1987a). For most allotments, the proposed permitted use under this Alternative is the same as that for Alternative 1. However, no TNR permits would be issued for annual grass production. The main difference is that the season of use is more restrictive than March 1 to February 28 for at least many allotments. This restriction of season under this Alternative would allow far less flexibility in management for those allotments affected.

For those allotments where season of use would change from March 1 to February 28 under Alternative 2, Table 4.1 summarizes these changes.

These changes may restrict the flexibility of managers to properly manage these allotments.

Allotments where the season of use is the same as for Alternative 1 (i.e. March 1 to February 28) are:

- Antelope Springs
- Blackrock Pocket
- Brackett Bench
- Bruneau Hill
- Coonskin AMP
- Flat Top

For these allotments, the flexibility available to managers would not change under Alternative 2.

Table 4.1 – Seasons of Use for Alternative 2

Allotment	Season of Use for Alternative 2
71 Desert	April 1 to December 31
Camas Slough	May 15 to December 1
Cedar Creek	June 15 to November 15
Crawfish	April 1 to December 15
East Juniper Draw	April 1 to December 31
Echo 4	March 15 to December 31
Grassy Hills	April 1 to October 31
Noh Field	March 15 to December 31
North Fork Field	July 1 to November 1
Pigtail Butte	April 1 to November 30
Three Creek #8	June 1 to November 30
Winter Camp	April 1 to December 31

Alternative 3

This Alternative would issue grazing permits based on preexisting levels and TNR permits would be authorized in addition to the permitted level limited to the “historic range of use” summarized in Table 2.1, Section 2. It is assumed the same level of TNR would be authorized annually. For those allotments being allocated increases in permitted AUMs under Alternative 2, the stocking rates and consequences of this Alternative would be similar to those outlined for Alternative 1. For those allotments where TNR permits have not been used or used only periodically or at low level, the effects of Alternative 3 also would be similar to those described for Alternative 1.

Alternative 4

This Alternative would authorize grazing operations under new permits at the present permitted levels (Table 2.3, Section 2). However, no TNR would be authorized. This Alternative represents a reduction in historic range of authorized use for those allotments which used a number of AUMs under TNR most years. Seasons of use under this Alternative would be the same as those now permitted and those authorized under Alternative 3. This would lead to the same loss of flexibility in managing these allotments described for Alternative 3.

For all allotments, the same season of use now allocated in present permits would be prescribed in the new permits. This allows far less flexibility in

management because many of these allotments are used in conjunction with other allotments in a rotation grazing schedule. As described under Alternative 1, where both the present and proposed permitted season of use is quite limited, the flexibility of rotating the time of that grazing would be limited under this option. This gives range managers far less flexibility in designing rotation schemes where a given allotment is grazed in conjunction with other allotments in a rotation system.

4.3 Vegetation

Four main vegetation types occur in the area analyzed: Native, Seeded, Seeded with at least 15 percent Sagebrush and Annual Grasses.

Native

Native plant communities occupy 61 percent of the total area of Federal land in the 18 allotments. The dominant native vegetation type is Wyoming Big Sagebrush/Thurber’s Needlegrass which makes up 18 percent of the total area and 29 percent of the area covered with native vegetation. The next most prevalent vegetation types are: Wyoming Big Sagebrush/Bluegrass (16 percent of Federal acres), Mountain Big Sagebrush (7 percent), Wyoming Big Sagebrush/Bluebunch Wheatgrass (6 percent) and Bluebunch Wheatgrass (6 percent).

Seeded Stands

These occupy 24 percent of the Federal land in the 18 allotments and are dominated by Crested Wheatgrass but a small amount of Intermediate Wheatgrass is found in three allotments. The management guidelines call for a maximum use of 50 percent on Crested Wheatgrass. However, these seedings can withstand heavier use (up to 65-70 percent) and may actually require heavier use than 50 percent to maintain vigorous stands without the “wolf plants” that occur when Crested Wheatgrass is underutilized. The stiff, dry stems in these wolf plants discourage grazing and thus shift grazing pressure to non-wolf Crested Wheatgrass plants and increasing the levels of utilization on those plants. This also could potentially increase trampling damage in the areas between the wolf plants because animals can walk around and avoid stepping on these wolf plants. Thus, allowing the formation of these wolf plants by consistent low utilization is counter productive to good management of the entire rangeland.

Seeded Stands with at Least 15 percent Sagebrush

These stands are older Crested Wheatgrass stands that have had invasion of sagebrush, mainly through natural secondary succession, although some limited seeding of sagebrush has also occurred. They occupy 9 percent of the total Federal land in the 18 allotments and are managed the same as native stands. Crested Wheatgrass is expected to continue to be the dominant grass in these stands, even as the canopy cover of sagebrush increases.

Annual Grasses

These communities were burned or otherwise disturbed and invaded by cheatgrass, which now dominates the community. While the cheatgrass is quite palatable in the short period when it is green, this is limited and it has limited value as wildlife habitat, ecosystem integrity and structural diversity. These stands are more susceptible to wildfire, with fire intervals of 5 years or less, which severely restricts the return of native grasses or sagebrush. Conversion of these systems to native systems would be difficult and expensive. Most of these stands should be seeded to perennial grasses such as Siberian wheatgrass, Secar Snake River wheatgrass, bluebunch wheatgrass, or other perennial plants that are competitive with cheatgrass to increase forage production and a return to a perennial-dominated community.

All four Alternatives contain the requirement to initiate grazing recommendations identified in the Standards and Guides Assessment for all allotments. Stocking rates do not vary much between

Alternatives so the short-term results should be similar.

Potential long-term trends in range condition (seral state) are discussed in this section of the EA for each Alternative. For allotments where lighter utilization and/or improved management indicate a potential for increases in range condition (seral state) in the future, the changes that may occur include: increases in amounts and percentage composition of desirable grass species, increases in amounts and percentage composition of forbs desirable for wildlife species, decreases in amount and/or percentage composition of cheatgrass, and, in areas that may have been recently burned, increases in the amount of sagebrush, over time, through natural succession. Although areas seeded to Crested Wheatgrass are not classified as to range condition or seral state, increases in sagebrush through natural succession to the threshold level of 15 or more percent may also occur in many seeded areas, which would make these areas function more like native plant communities and be managed as such.

Alternatives with lower stocking rates for some allotments could allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend in range condition (seral state).

Alternative 1 (Proposed Action)

In the calculations of Stocking Rates based on climate and production (for allotments where production studies were conducted), the application of a 40 percent limit on Native Rangeland and 50 percent limit on Crested Wheatgrass stands resulted in a weighted use factor ranging from 40 percent (for allotments with all native range) to 50 percent (for allotments with mostly Crested Wheatgrass stands). Allotments with a mixture pastures dominated by either seeded and native had a calculated weighted use factor between 40 percent and 50 percent. These weighted use factors were then reduced by multiplying by the percentage of years that long-term records indicated that precipitation was equal to or greater than 75 percent of average. This reduced the calculated percentage of native production available for livestock utilization to a range of between 27 percent and 36 percent. These calculations are described in detail in Appendix A.

71 Desert

The percentage of vegetation production available to livestock in this allotment was calculated to be 31 percent which translated to 3,922 AUMs available for livestock grazing. However because of limited water availability in some areas and portions of the allotment being in a WSA, the permitted stocking rate was decreased to 3,652 AUMs. With the implementation of Adaptive Management using the applicable management guidelines. This reduced stocking rate, compared to the potential stocking rate, should decrease utilization levels on the key native species below the allowable guidelines and result in maintenance of the mid to late seral Ecological Ratings sampled in 2002-2003 or a continued upward trend. However, this reduced stocking rate would allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute to the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend.

The proposed expansion of the AEC pipeline would distribute cattle into crested wheatgrass seeding in the northern portion of the Sheephead Draw and Lookout Pastures. These locations would draw cattle more into seeded areas and away from native areas. This situation is expected to maintain the late seral condition sagebrush communities and improve the mid- and late seral sagebrush communities.

Bruneau Hill

The percentage of vegetation production available to livestock in this allotment was calculated to be 27 percent which translated to 4,487 AUMs available for livestock grazing. However, the current stocking level of 4,200 AUMs would not be change until further monitoring is completed in the WSA. This reduced stocking rate, compared to the potential stocking rate, should decrease utilization levels on the key native species and result in maintenance of the mid seral Ecological Ratings sampled in 2002-2003 or a continued upward trend. However, this reduced stocking rate would allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute to the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend.

Camas Slough

The percentage of vegetation production available to livestock in this allotment was calculated to be 31 percent which translated to 253 AUMs available for livestock grazing. Because this rather small increase in stocking rates (from 180 AUMs), the utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. No vegetation sampling was done in 2002-2003 to calculate a new stocking rate. The current Ecological Conditions in this allotment are unknown. Preliminary determinations indicated that this allotment met Idaho State Standards for Rangeland Health for Standards 1 and 4 and did not meet Standards 2 and 8. Current stocking rates with the implementation a Adaptive Management using the applicable management guidelines is expected to maintain the ecological condition of the allotment in stable or upward trend.

The construction of the fence to expand the protection of the riparian area of Camas Slough and moving the trough from a sagebrush community to a plant community with little sagebrush would lessen the effects on the sagebrush plant community. This situation is expected to maintain the late seral condition sage brush communities and improve the mid- and late seral condition sagebrush communities.

Cedar Creek

The percentage of vegetation production available to livestock in this allotment was calculated to be 31 percent which translated to 4,443 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. The implementation a Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Late Seral to Potential Natural Community (PNC) Ecological Ratings sampled in 2002-2003 or a continued upward trend

Coonskin AMP

The percentage of vegetation production available to livestock in this allotment was calculated to be 29 percent which translated to 5,468 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past The implementation a Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Late Seral to Potential Natural Community (PNC) Ecological Ratings sampled in 2002-2003 or a continued upward trend

East Juniper Draw

The percentage of vegetation production available to livestock in this allotment was calculated to be 31 percent which translated to 2,474 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. The implementation of Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Late Seral Ecological Ratings sampled in 2002-2003 or a continued upward trend.

Echo 4

The percentage of vegetation production available to livestock in this allotment was calculated to be 34 percent which translated to 5,540 AUMs available for livestock grazing. However because of limited water availability in some areas of the allotment, the permitted stocking rate was decreased to 3740 AUMs. With the implementation of Adaptive Management using the applicable management guidelines, this reduced stocking rate, compared to the potential stocking rate, should decrease utilization levels on the key native species below the allowable guidelines. However, this reduced stocking rate would allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend.

Flat Top

The percentage of vegetation production available to livestock in this allotment was calculated to be 30 percent which translated to 6,231 AUMs available for livestock grazing. However because portions of the allotment are in a WSA, the proposed permitted stocking rate was decreased to 5,761 AUMs. With the implementation of Adaptive Management using the applicable management guidelines, this reduced stocking rate, compared to the potential stocking rate, should decrease utilization levels on the key native species and result in maintenance of the late seral Ecological Ratings sampled in 2002-2003 or a continued upward trend. However, this reduced stocking rate would allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an

unfavorable shift in vegetation composition and a downward trend.

Grassy Hills

The percentage of vegetation production available to livestock in this allotment was calculated to be 31 percent, which translated to 828 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. The implementation of Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Mid Seral to PNC Ecological Ratings sampled in 2002-2003 or a continued upward trend

Noh Field

The percentage of vegetation production available to livestock in this allotment was calculated to be 36 percent which translated to 1,073 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. The implementation of Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Late Seral Ecological Ratings sampled in 2002-2003 or a continued upward trend

Pigtail Butte

The percentage of vegetation production available to livestock in this allotment was calculated to be 33 percent which translated to 5,532 AUMs available for livestock grazing. The utilization patterns and amounts in this allotment should not change very much from what has occurred in the past. The implementation of Adaptive Management using the applicable management guidelines is expected to result in maintenance of the Mid- to Late Seral Ecological Ratings sampled in 2002-2003 or a continued upward trend

Three Creek #8

The percentage of vegetation production available to livestock in this allotment was calculated to be 34 percent which translated to 785 AUMs available for livestock grazing, only slightly less than the 797 AUMs now permitted. The permitted use would remain the same under this Alternative, 797 AUMs. The implementation of Adaptive Management using the applicable management guidelines is expected to result in maintenance of the PNC Ecological Ratings sampled in 2002-2003.

Winter Camp

The percentage of vegetation production available to livestock in this allotment was calculated to be 29

percent which translated to 1,307 AUMs available for livestock grazing. However because portions of the allotment are in a WSA, the proposed permitted stocking rate was decreased to 519, which is almost the same as the current 515 AUMs. This greatly reduced stocking rate, compared to the potential stocking rate, should decrease utilization levels on the key native species and result in maintenance of the late seral Ecological Ratings sampled in 2002-2003 or a continued upward trend. However, this reduced stocking rate would allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend.

The proposed expansion of the AEC pipeline would distribute cattle into crested wheatgrass seeding in the central portions of the West Pasture. These locations would draw cattle more into seeded areas and away from native areas. This situation is expected to maintain the late seral condition sagebrush communities and improve the mid- and late seral sagebrush communities.

Other Allotments

Five allotments have no change in stocking rate proposed: Antelope Springs, Blackrock Pocket, Brackett Bench, Crawfish and North Fork Field.

These proposed permitted stocking rate for these allotments was not changed from the current permitted rate. These allotments generally have not had many years with Temporary Non Renewable (TNR) permits and no vegetation sampling was done in 2002-2003 as a basis for calculating a new stocking rate. The utilization patterns and amounts in these allotments should not change very much from what has occurred in the past. However, the implementation of the Management Guidelines would make progress toward meeting the Standards for Rangeland Health 1, 4, 5 and 8. Adaptive management would provide for making annual changes based on monitoring to ensure progress is occurring.

The proposed fence in the Blackrock Pocket Allotment would allow deferment or rest from grazing use in the Blackrock Pocket (proper) area. This deferment would allow desired plants to increase in vigor and produce a seed source for recruitment. Relocating the southern trough in the Crawfish Allotment to a plant community without sagebrush overstory would allow improvement in

vigor and recruitment in the understory of the sagebrush community by lowering the grazing use of the area.

Alternative 2

Alternative 2 allocates vegetation production based on objectives identified for the Management Unit Areas in the 1987 RMP. Permitted grazing levels would be limited to proposed 20-year use identified in the Jarbidge RMP Record of Decision. For most allotments, the proposed stocking rate under this Alternative is the same as that for Alternative 1. The main difference is that no TNR permits would be issued for annual grass production. Also, allotments with a considerable amount of annual grassland would not have TNR permits issued for years with high cheatgrass production. This stocking rate would result in much less of the annual vegetation being utilized and may allow an accumulation of fine fuel (ungrazed grasses), especially in average or above-average years, which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend. Other than these considerations, consequences of application of this Alternative would be similar to those described for Alternative 1 for each allotment. With proper management the proposed stocking rates should maintain the Ecological Condition of all of these allotments in stable or upward trend

Alternative 3

This Alternative would issue grazing permits based on preexisting levels and TNR permits would be authorized in addition to the permitted level limited to the "historic range of use" summarized in Table 2.1, Section 2. It is assumed the same level of TNR would be authorized annually. Some adjustments would be required in existing operations for some allotments to be in conformance with management guidelines prescribed for each allotment (Tables 2.1 and 2.3, Section 2). For those allotments being allocated increases in permitted AUMs under Alternative 1, the stocking rates and consequences of this Alternative would be similar to those outlined for Alternative 1. These allotments include 71 Desert, East Juniper Draw, Echo 4, Flat Top and Noh Field.

For those allotments where TNR permits have not been used or used only periodically or at low level, the effects also should be similar to those described for Alternative 1. These allotments are: Antelope Springs, Blackrock Pocket, Brackett Bench, Crawfish, Three Creek #8 and Winter Camp. For those allotments where rather large numbers of TNR

have been used in some years in response to significant seasonal increases in vegetation production, the issuance of and average number of AUMs under TNR in dry or low production years could lead to higher utilization than desired or removal of livestock early to prevent such utilization. If higher utilization occurred frequently or in too many successive years, the improving trends in Ecological Condition on these allotments might be reversed, which would be undesirable. In years with higher than normal precipitation and vegetation growth, the issuance of an average number of TNR AUM permits should allow a moderate use of the vegetation and not allow an unacceptable level of fine fuels. Thus fire danger should not be a problem (or as much of problem) as described for Alternative 2.

Alternative 4

This Alternative would authorize grazing operations under new permits at the present permitted levels (Table 2.1, Section 2). No TNR would be authorized. This Alternative represents a reduction in historic range of authorized use for those allotments which used a number of AUMS under TNR most years. These allotments are: 71 Desert, Cedar Creek, Coonskin AMP, Flat Top, Noh Field, and Pigtail Butte. With proper management this generally lowered stocking rate should the proposed stocking rates should maintain the Ecological Condition of all of these allotments in stable or upward trend. However, in years with higher than normal precipitation and high cheatgrass production, these lower stocking rate would result in much less of the annual vegetation being utilized and may allow an accumulation of fine fuel (ungrazed grasses), which could increase the danger of fires or contribute the spread of fires that might occur. Such fires, if they occur in areas with very much cheatgrass present, could result in increasing the cheatgrass and, at least temporarily, causing an unfavorable shift in vegetation composition and a downward trend

4.4 Special Status Plant Species

No federally listed plants occur within these BLM-administered lands. Consequently, there would be no effect to threatened or endangered plant species within the project allotments. There are nine (9) Idaho BLM sensitive plants and one (1) Nevada BLM sensitive plant species known to occur within the Study area. The CDC query of plant species also identified seven (7) species of concern known to occur in adjacent or neighboring allotments. These species have a probability of occurring in the study area.

Rangeland health standards for threatened and endangered plant species are not currently being met on 71 Desert, Antelope Springs, Blackrock Pocket, Bruneau Hill, Camas Slough, Cedar Creek, Crawfish, Echo 4, East Juniper Draw, Flat Top, Grassy Hills, Noh Field, Pigtail Butte, Winter Camp, and Cedar Creek allotments. Only three allotments, North Fork, Coonskin AMP, Three Creek #8, currently meet this standard. The lack of surveys for special status plants has limited the amount of available data necessary for assessing the effect of livestock grazing management on sensitive species. Extensive fires have also precluded the collection of the necessary monitoring data for sensitive species.

Special status plants or habitats are not presently known to occur in Black Rock Pocket and Camas Slough Allotments. Impacts to sensitive species that may occur in these areas cannot be determined based on the currently available information.

Allotments with suitable habitat slickspot peppergrass habitat have not been field checked, and this information was determined from soil, vegetation and other relevant data.

Effects Common to all Alternatives

The Jarbidge RMP (BLM 1987) states “Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting those species, including fencing, if necessary. Adjustments to livestock use levels, grazing seasons, season-of-use or other management techniques will be used to protect plants. If a proposed action is predicted through environmental assessment, to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects.”

The primary effects of livestock grazing on special status species include trampling, degradation, and loss of habitat. Trampling damages the plant by destroying the meristem, which prevents the production of flowers, fruit, and seed. Forbs are most vulnerable during the flowering stage. Trampling impacts to sensitive plants from livestock during the active growth phase and prior to seed dispersal can be adverse, particularly for annual species such as White-margined wax plant, spreading gilia, and rigid threadbush. The season of use should be timed to avoid removing or trampling flowering stalks during grazing, and to avoid removing the inflorescence after bolting or before seed dispersal. Use of a deferred rotation system can restrict grazing in pastures during the critical growth period of key species for two consecutive years. The rotation helps

maintain the viability of the populations of these species, especially the annuals.

Livestock may also impact habitat by hoof action, causing an increase in erosion and soil compaction. Trampling by livestock is one of the main disturbances to slickspot habitat, which is most susceptible to impacts during times of high soil moisture (December through May/June). Davis peppergrass occurs in natural playas which are inundated with water in the spring, but dry out to a rock hard surface layer later in the season (Moseley, 1995). These playas occasionally impound and retain water for livestock use. Grazing when soils are likely to be saturated increases soil compaction particularly within playas. Grazing also results in the deposition of organic debris in slickspots and slickspot boundaries, which compromise the suitability of the habitat.

Trampling not only crushes or damages special status plants but also can adversely affect the surrounding vegetation, allowing the encroachment of weed species. There is a negative correlation between ground disturbance and slickspot peppergrass occurrence conditions. The invasion of weeds near and into sensitive species habitat poses a direct threat through habitat degradation and the potential impact of herbicides. Cheatgrass and annual weeds out compete sensitive species. All BLM listed sensitive species are located in habitats that could potentially be affected by weed encroachment.

Common to all Alternatives would be the application of specific management guidelines. There are currently no management guidelines for livestock grazing within the project allotments. The lack of management increases the potential for impacts to special status plants. Management guidelines and the season of use have the greatest influence on avoiding or mitigating negative effects to species status species. Management Guidelines that would benefit sensitive plants include removing livestock from an allotment based on established utilization percentages for herbaceous vegetation and restricting spring use in Wilderness Study areas, which provides periodic rest or grazing deferment during critical plant growth stages.

Range Improvement Projects common to all Alternatives are outlined in Table 2.2, Section 2. Field surveys for special status plant species would be conducted prior to implementation of these projects. Field inventories would also be conducted to verify the presence of slickspots and slickspot peppergrass on allotments. Acreage estimates of suitable habitat for slickspots and the associated environmental consequences presented in the

following paragraphs are based on preliminary soil surveys (Section 3). A portion of 71 Desert and Crawfish allotments have been inventoried (Vision Air Research 2003) and have known slickspots. Monitoring would also be conducted on special status species to identify changes in the populations. If monitoring results show population declines, BLM would adjust management strategies and modify grazing and rotation schedules, if necessary, to avoid future impacts.

Designated avoidance areas around known populations and slickspots would eliminate adverse impacts from proposed range and riparian improvement projects. New fence construction and maintenance would help control livestock although the maintenance of the fences may increase off-road vehicle use and trailing by livestock. Sensitive plant species threatened by off-road vehicle use include spine-node milkvetch, rigid threadbush, Snake River milkvetch, white-margined wax plant, and Greeley's wavewing. These species are found within the Bruneau Hill Allotment.

Alternative 1 (Proposed Action)

Alternative 1 authorizes grazing operations under new permits and allocates vegetation production based on the application of a uniform formula. TNR permits would be available for areas dominated by annual vegetation on a yearly basis. Under Alternative 1, the permitted AUMs would increase above the previously permitted AUMs in 11 of the 18 allotments (relevant to special status species). The remaining seven (7) allotments would have the same AUMs as the present permitted use or no proposed change in stocking rates.

Under Alternative 1, the season of permitted use has been changed to include the entire year for all allotments. This is not intended to infer that the allotments would be used yearlong but rather to allow flexibility in management. Permitting year long use allows for flexibility in scheduling grazing on individual allotments and rotating the season of use, when and where desirable, among allotments and pastures. Restrictive (short) permitted seasons do not allow this flexibility. The appropriate season of grazing for each allotment would be determined in either Allotment Management Plans (AMPs) or yearly grazing plans. Since the specific dates have not yet been determined, the period of present use is described, and the impact, if any, is discussed in the write-up for each allotment.

71 Desert

Simpson's hedgehog cactus and Davis peppergrass are the only sensitive plants known to occur in this allotment. There are approximately 10,000 acres of

suitable habitat for slickspot peppergrass and 467 unoccupied slickspots. This area is in the “Consideration Zone” identified in the Candidate Conservation Agreement (2003). The number of unoccupied slickspots was for a small, surveyed area of the allotment and should not be applied to the entire allotment. It is likely that many more slickspots are present. All of the Davis peppergrass populations and five (5) of the Simpson’s hedgehog cactus populations are in Indian Hot Springs pasture. The remaining two (2) populations of the cactus are in Stiff Tree Draw pasture. The primary vegetation type within these Pastures is native plant communities. Management guidelines for limiting upland utilization to 40 percent as measured at key areas (MG 1) and implement grazing practices that provide periodic rest or deferment during critical growth stages thereby reducing the expected impacts from livestock grazing (MD 11). The management guideline for Bighorn Sheep (MG 12) would also benefit Davis peppergrass, which is known to occur in Inside Lakes (playas). Grazing is prohibited from May 1 through June 15, which would minimize trampling impacts associated with spring grazing in the playas. Under this Alternative, the proposed permitted use is 3,652 AUMs which is higher than the present permitted use of 2,981 AUMs. The higher AUMs could result in a slightly greater impact to sensitive species and habitat.

The current season of use is December 1 to March 15. Spring is the most detrimental season of use for Davis peppergrass and slickspots. Soils are saturated and most susceptible to trampling and compaction. The surrounding habitat would potentially be degraded resulting in increases in the invasion of exotic species, fire frequency, and sediment loading into the playas. There is no preferred season of use for Simpson’s hedgehog cactus. Increased stocking rates would pose a greater risk of impact to this species.

Improvement projects proposed for 71 Desert are described in Table 2.2, Section 2. Field surveys would be conducted prior to the implementation of these projects to avoid impacting sensitive species or suitable habitat.

Antelope Springs

Simpson’s hedgehog cactus is the only sensitive plant known to occur in this allotment. There are approximately 8,847 acres of suitable habitat for slickspot peppergrass. All of the cactus populations (14) are within Pasture #9. The dominant vegetation type is native plant communities. The proposed permitted use of 6,046 AUMs is the same as the present permitted use. Management guideline (MG 1) would limit upland utilization, likely decreasing

livestock impacts to this cactus from trampling. The proposed permitted use is the same as the present permitted use 6,046 AUMs. The present season of use is April 1 to November 30. Spring grazing would pose a greater risk to slickspot peppergrass or slickspots, if present. There are no range improvement projects for this allotment.

Brackett Bench

There is one sensitive plant, which occurs in this allotment and 52 acres of suitable slickspot habitat. Eight Simpson’s hedgehog cactus populations occur in Pasture #7. The implementation of Management Guidelines 1 and 11 would reduce expected impacts from livestock grazing. The proposed permitted use of 2,386 AUMs is the same as the present permitted use.

This allotment currently has permitted grazing seasons of June 1 to July 31 and November 1 to November 30. However, the grazing system used is a deferred rotation system in the summer, fall and winter. The system restricts grazing during critical growth periods of key species for two consecutive years. This type of use would continue and would be facilitated by the new permitted year-long season of use. There would be little change or adverse impact from the present use to the proposed use with regard to season of use.

Proposed range improvement projects for this allotment are described in Table 2.2, Section 2. There are no sensitive species known or suspected to occur in this study area. Field surveys would be conducted prior to the implementation for verification.

Bruneau Hill

There are six (6) sensitive plants which occur in two different pastures within this allotment and 7,465 acres of suitable habitat for slickspot peppergrass (Table 4.2).

The dominant vegetation type within these two pastures is primarily native plant communities. Management guidelines 1 and 11 would reduce expected impacts from livestock grazing. Under this Alternative, the proposed permitted use would remain the same as the current permitted use of 4,200 AUMs. The present season of use is March 1 to April 15 and November 1 to February 28. No pasture is used in the spring during the critical growth period of key grass species for two consecutive years. Trampling impacts to sensitive plants from livestock during the active growth phase and prior to seed dispersal can be adverse, particularly for the annual species White-margined wax plant, spreading gilia, and rigid threadbush. It is expected that repeated

trampling during this sensitive time would eventually deplete the seed bank and extirpate the site. Soil compaction may create adverse conditions. The long-term persistence of these plants in this allotment would be at risk under the present management plan.

Improvement projects include constructing the Roberson Trail Gap fence to control cattle drift to Bruneau Canyon. Sensitive species plant surveys would be conducted prior to implementation of this project. BLM sensitive species with the potential to occur within this improvement project include Bruneau River prickly-phlox and giant helleborine.

Cedar Creek

This represents approximately 482 acres of suitable habitat for slickspot peppergrass based on preliminary surveys. The pastures within this allotment are primarily native vegetation communities. Slickspot peppergrass has not been identified in this allotment, so the effects of changing management cannot be determined. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. Proposed management guidelines (1, 11 and 13) would decrease livestock impacts to suitable habitat due to trampling and impacts to the surrounding vegetation community. The proposed permitted use is 4,443 AUMs which is slightly higher than the present permitted use (4,233 AUMs). The current permitted grazing season is June 1 to November 30.

Table 4.2 – Sensitive Plant Species in the Bruneau Hill Allotment

Species	Pasture #5 (populations)	Pasture #6 (populations)	Management Guidelines
Snake River milkvetch (flowers late April through June)	3		1, 11
Greeley's wavewing (March to April)	1		
White-margined wax plant (April to June)	1		
Spreading gilia (late April to June)	1		
Rigid threadbush (May and June)	2		
Spine-node milkvetch (May and June)	12		
Greeley's wavewing (March to April)		7	1, 11
White-margined wax plant (April to June)		1	
Spreading gilia (late April to June)		5	

Range improvement projects for this allotment are described in Table 2.2, Section 2. There are no sensitive species known or suspected to occur in the study area. Field surveys would be conducted prior to the implementation of these projects to avoid impacting sensitive species or suitable habitat.

Coonskin AMP

This represents approximately 31,835 acres of suitable habitat for slickspot peppergrass. The pastures within this allotment are primarily native vegetation. There is no known occurrences of slickspot peppergrass in this allotment. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. Management guidelines (1 and 11) would limit upland utilization (40 percent) and implement periodic rest and deferment. The proposed permitted use is 5,468 AUMs which is higher than the present permitted use of 4,783 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. The present permitted grazing season is March 1 to May 31 and December 1 to December 30. March through May pose a greater risk to slickspot habitat due to increases in soil moisture. There are no range improvement projects proposed for this allotment.

Crawfish

There are approximately 2647 acres of suitable habitat for slickspot peppergrass and 67 unoccupied slickspots. The number of unoccupied slickspots was for a small, surveyed area of the allotment and should not be applied to the entire allotment. It is likely that more slickspots are present. The primary vegetation

within this allotment is native plant communities. Management guidelines 1 and 11 would decrease livestock impacts resulting from trampling and impacts to the surrounding vegetation community. The proposed permitted use is the same as the present permitted use, 650 AUMs. The present season of use for Crawfish is April 1 to May 31. This season of use poses a greater risk to slickspots.

Range improvement projects for this allotment are described in Table 2.2, Section 2. Field surveys would be conducted prior to the implementation of these projects to avoid impacting sensitive species or slickspots.

East Juniper Draw

There are approximately 8,847 acres of suitable habitat for slickspot peppergrass. The pastures within this allotment are primarily native vegetation communities. Management guideline (1) would limit upland utilization and MG 11 would implement periodic rest and deferment. This is expected to reduce livestock impacts to suitable habitat resulting from trampling and impacts to the surrounding vegetation community. The proposed permitted use is 2,474 AUMs, which is higher than the current permitted use of 907 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. The present grazing season is April 1 to May 31 and October 1 to November 30. April through May pose a greater risk to slickspot habitat. There are no range improvement projects proposed for this allotment.

Echo 4

There are approximately 12,829 acres of suitable habitat for slickspot peppergrass. Special status plants have not been inventoried in this allotment, so the effects of changing management cannot be determined. It is likely that the habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The pastures within this allotment are primarily native vegetation communities and Crested Wheatgrass with >15 percent sagebrush. Management guidelines would include 1 and 11. The proposed permitted use is 3,740 AUMs, which is higher than the current permitted use of 2,309 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. This allotment currently has a year long permitted grazing season of March 1 to February 28, which would not change under Alternative 1. There are no range improvement projects proposed for this allotment.

Flat Top

There are approximately 5,628 acres of suitable habitat for slickspot peppergrass. Sensitive plants are not presently known in this allotment, so the effects of changing management cannot be determined. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The pastures within this allotment include Crested Wheatgrass and native vegetation communities. Management guidelines would include 1 and 11. The proposed permitted use is 3,740 AUMs, which is higher than the current permitted use of 2,309 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. This allotment currently has a year long permitted grazing season of March 1 to February 28, which would not change under Alternative 1. There are no range improvement projects proposed for this allotment.

Grassy Hills

There are approximately 11,000 acres of suitable habitat of slickspot peppergrass within this allotment. Sensitive plants have not been inventoried in this allotment, so the effects of changing management cannot be determined. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The pastures within this allotment are primarily native vegetation communities. Management guideline 1 and 11 would reduce livestock impacts to suitable habitat resulting from trampling and impacts to surrounding vegetation communities. The proposed permitted use is 858 AUMs which is higher than the current permitted use of 658 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. This

allotment currently has a permitted grazing season of July 1 to July 30 which would minimize impacts to slickspot habitat. There are no range improvement projects proposed for this allotment.

Noh Field

There are approximately 1,600 acres of suitable slickspot peppergrass habitat within this allotment. Sensitive plants or habitat are not presently known in this allotment, so the effects of changing management cannot be determined. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The pastures within this allotment are seeded, primarily Crested Wheatgrass vegetation communities. Management guideline (2) would limit grazing on seeded pastures to 50 percent utilization as measured at key areas. Management guideline (11) would implement grazing practices that provide periodic rest or deferment during critical growth stages. The proposed permitted use is 1,073 AUMs which is higher than the current permitted use of 528 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. This allotment currently has a permitted grazing season of December 1 to December 30. However, the allotment is used in the late spring, fall and winter (January through April). The pastures are rotated so that no grazing occurs in the spring for two consecutive years. There are no range improvement projects proposed for this allotment.

North Fork Field

There are 25 known locations of Simpson's hedgehog cactus in the North Fork Field allotment. All known locations occur in the North Fork Field Pasture. The vegetation type is primarily native plant communities. It is likely that habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The proposed permitted use is 570 AUMs, the same as the current permitted use. This allotment currently has a permitted grazing season of July 1 to July 30. However, the allotment is grazed in the summer and fall (July through December). The expansion of the permitted grazing season would allow more flexibility and allow management to conform more closely to the actual use of this allotment. The pastures are rotated so that no grazing occurs in the spring in two consecutive years. The preferred habitat of Simpson's hedgehog is open, rocky habitats from canyon ridges, benches and rims to exposed mountain ridge crests, soils are shallow, rocky and well-drained. Range improvements projects for this allotment are described in Table 2.2 – Section 2. It is unlikely that the proposed projects would affect this sensitive species. There would be little difference or effect on Simpson's hedgehog

cactus based on changes associated with Alternative 1 for this allotment. There are no other known or suspected sensitive species in the project vicinity.

Pigtail Butte

There are approximately 1,686 acres of suitable slickspot peppergrass habitat within this allotment. Special status plants are not presently known in this allotment, so the effects of changing management cannot be determined. It is likely that the habitat for sensitive species would improve with the management of livestock grazing in accordance with guidelines. The vegetation types within the Pigtail Butte allotment include native and seeded stands. Management guidelines include 1, 3 and 11. The proposed permitted use is 5,532 AUMs which is higher than the present permitted use of 3,959 AUMs. The increased AUMs could result in a greater disturbance to slickspot habitat. This allotment currently has a permitted grazing season of March 15 to November 30. The pastures are rotated so that no grazing occurs during the spring in two consecutive years.

Range improvement projects for this allotment are described in Table 2.2, Section 2. There are no other known or suspected sensitive species in the project vicinity. Field surveys would be conducted prior to the implementation of these projects to avoid impacting sensitive species.

Three Creek #8

Broadleaf fleabane has been identified as a sensitive plant species known to occur within this allotment. There are 16 acres of suitable habitat for slickspot peppergrass. Broadleaf fleabane is found within Pasture #4 which is primarily native vegetation. Management guidelines 1, 11 and 13 would reduce livestock impacts. The proposed permitted use is 785 AUMs which is only slightly less than the 797 AUMs now permitted. This allotment currently has a permitted grazing season of June 1 to June 30 and October 1 to November 30. Broadleaf fleabane flowers from late-spring to summer (June to July). The current season of use has the potential to impact the flowering stage of the broadleaf fleabane. Timing the grazing season to avoid this sensitive time period would reduce the risk of impact. There are no improvement projects proposed for this allotment.

Winter Camp

There are two known locations of Davis peppergrass in the Winter Camp Allotment and 4,641 acres of suitable habitat for slickspot peppergrass. Davis peppergrass is found in Pastures East and West (one population in each pasture). The primary vegetation type in these pastures is native plant communities. Management guidelines would include 1, 11 and 12.

The management guideline for Bighorn Sheep (MG 12) would benefit Davis peppergrass, which is known to occur in Twin Lakes (playas). Grazing is prohibited from May 1 through June 15, which would minimize trampling impacts associated with spring grazing in the playas. The proposed permitted use is 519 AUMs which is only slightly higher than the 515 AUMs now permitted. This allotment currently has a permitted grazing season of April 2001 to February 2004. Livestock use when soils are saturated increases the risk of soil compaction and the invasion of exotic species within playas, which may extirpate sensitive plant populations (Bernatas and Mosely, 1991). Increased sedimentation resulting from the degradation of the adjacent environment may contribute to the decline of this species.

Range improvement projects for this allotment are described in Table 2.2, Section 2. There are no sensitive plant species known or suspected in the study areas. Field surveys would be conducted prior to the implementation of these projects to avoid impacting sensitive species.

Under Alternative 1, the proposed permitted AUMs would increase above the present AUMs in 10 of the 16 allotments. The remaining six (6) allotments would have the same AUMs as the present permitted use or no proposed change in stocking rates. There are 5 allotments where the present season of use poses an increased risk to known sensitive plant species and habitat. These allotments include: 71 Desert, Winter Camp, Crawfish, Three Creek #8, and Bruneau Hill. There are three (3) allotments in which there would be little difference or effect between Alternative 1 and the present season of use. These allotments include: Echo 4, Flat Top and North Fork Field. The remaining allotments have suitable habitat for slickspot peppergrass. The present season of use, poses an increased risk to suitable habitat. Future surveys would be conducted to determine if suitable habitat is indeed occupied. Alternative 1 proposed change in season of use would be expected to decrease livestock impacts, compared to the present use.

The application of management guidelines would be expected to make substantive progress towards improvement of special status plants and their associated habitat. The present, unmanaged environment would allow impacts to continue to occur under the present permitting system. Management guidelines would limit utilization and, in some cases, limit spring use and allow periodic rest or deferment during the critical growth stage and help maintain the condition of the surrounding native vegetation.

Surveys would be conducted prior to the implementation of all range improvement projects to identify sensitive species or suitable habitat. These areas would be protected from any impacts associated with proposed improvement projects resulting in little or no effect to plants of special status.

Alternative 2

Alternative 2 allocates vegetation production based on objectives identified for the Multiple Use Areas in the 1987 RMP. Permitted grazing levels would be limited to the proposed 20-year use identified in the Jarbidge RMP Record of Decision. For most allotments the proposed stocking rate under this Alternative is the same as that for Alternative 1.

However, no TNR permits would be issued for annual grass production. The main difference is that the season of use is defined for 11 out of the 16 allotments. These include 71 Desert, Cedar Creek, Crawfish, East Juniper Draw, Echo 4, Grassy Hills, Noh Field, North Fork Field, Pigtail Butte, Three Creek #8, and Winter Camp. The remaining allotments would have the same season of use as that for Alternative 1. These allotments include Antelope Springs, Brackett Bench, Bruneau Hill, Coonskin AMP and Flat Top. Management guidelines (and associated effects) and improvement projects under Alternative 2 would be the same as Alternative 1 (Table 4.3).

Table 4.3 – Season of Use for Alternative 2 and Associated Known Sensitive Species

Allotment	Season of use for Alternative2	Known sensitive species	Slickspot peppergrass
71 Desert	4/1 to 12/31	Simpson's hedgehog cactus Davis peppergrass	467 slickspots and suitable habitat
Cedar Creek	5/15 to 12/1		suitable habitat
Crawfish	4/1 to 12/15		67 slickspots and suitable habitat
East Juniper Draw	4/1 to 12/31		suitable habitat
Echo 4	3/15 to 12/31		suitable habitat
Grassy Hills	4/1 to 10/31		suitable habitat
Noh Field	3/15 to 12/31		suitable habitat
North Fork Field	7/1 to 11/1	Simpson's hedgehog cactus	
Pigtail Butte	4/1 to 11/30		suitable habitat
Three Creek #8	6/1 to 11/30	Broadleaf fleabane	Suitable habitat
Winter Camp	4/1 to 12/31	Davis peppergrass	Suitable habitat

Livestock grazing has a greater potential of impacting Davis peppergrass, slickspot peppergrass and broadleaf fleabane during spring months (April to June). Impacts to sensitive plant species associated with spring grazing include a greater potential for soil compaction, trampling prior to flowering and habitat degradation. Limitations on the season of use may have a greater long term impact on allotments where grazing starts during the spring months.

Alternative 3

Under this Alternative, grazing permits are based on pre-existing levels and TNR permits would be authorized in addition to the permitted level limited to the "historic range of use". TNR would likely be authorized annually. For those allotments being allocated increases in permitted AUMs under Alternative 2, the stocking rates and the environmental consequences of this Alternative would be similar to those outlined for Alternative 1 for sensitive species. Impacts may vary each year,

depending on the amount of TNR authorized. For those allotments where TNR permits have not been used or used only periodically or at low level, the effects of Alternative 3 also would be similar to those described for Alternative 1. These allotments include 71 Desert, East Juniper Draw, Echo 4, Flat Top and Noh Field.

Alternative 4

This Alternative would authorize grazing operations under new permits at the present permitted levels (Table 2.1, Section 2). This Alternative represents a reduction in historic range of authorized use for those allotments which used a number of AUMs under TNR most years. Seasons of use under this Alternative would be the same as those presently permitted and those authorized under Alternative 3. Under this Alternative, fewer improvement projects would be implemented compared to Alternatives 1, 2, or 3.

The reduction of AUMs, under this Alternative, would have a positive effect on sensitive plant species and their habitat. Impacts due to trampling and habitat degradation would be expected to decrease due to the reduction of physical disturbance.

4.5 Invasive and Noxious Weeds

Alternative 1 (Proposed Action)

Alternative 1 authorizes grazing operations under new permits and allocates vegetation production based on the application of a uniform formula. Temporary Non Renewable (TNR) permits would be available for areas dominated by annual vegetation on a yearly basis. Under Alternative 1, permitted AUMs would increase above the previously permitted AUMs in 11 of the 18 allotments. However, for most allotments, the increase is smaller than the amount of Temporary Non Renewable (TNR) use in the highest year such use was authorized in the past 13 years on most allotments. Given the fact that grazing levels in the allotments would slightly increase in comparison with historic levels with TNR, an increase in affected acreage by noxious and invasive weeds is not anticipated with proposed grazing management. However, there is a concern that weeds may become established at local, heavily-grazed areas. Mangers would need to insure that grazing sufficiently occurs through out the allotments to discourage local weed establishment. Also, carefully-controlled grazing may be a useful tool to reduce cheatgrass and perhaps other weed dominance in some allotments such as Bruneau Hill, Coonskin AMP, Grassy Hills, and 71 Desert. Monitoring in all allotments would occur to identify the establishment of new weed species or the expansion of existing weeds as noxious weeds are a critical element of Standards 4, 5, and 6 of *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management*.

Most noxious weeds originally were spread from the Middle East to Europe, colonizing ground disturbed by agriculture, grazing, and urban development (Prather et al. 2002). European settlers inadvertently brought weeds with them to the United States in grain seed, livestock feed, and ship ballasts. Weeds slowly spread across the county with settlement. Accidental introductions have occurred, for example, through contaminated crop seed or livestock forage and include species such as cheatgrass, halogeton, and medusahead. Some invasive weeds were introduced for specific purpose such as livestock forage, horticultural or soil stabilization and they escaped into natural vegetation communities. An example is Russian olive. Today many noxious and invasive weeds are spread by off highway vehicles (OHV),

campers, backpackers, hunters, big game and other wildlife, and livestock.

The spread of noxious and invasive weeds pose a hazard to vegetation communities and forage production in the grazing allotments because weeds can displace native plants as they compete for space, sunlight, water, and nutrients. As such, weeds can cause drastic changes in the composition, structure and productivity of vegetation communities and change the ecological state of ecological sites (West 1999). Also, weeds can alter the mix of native vegetation and reduce ungulate forage quality and quantity and some are even be poisonous to livestock. Furthermore, weeds—especially cheatgrass—because of their abundant growth especially during wet years and flammability tend to increase the risk of wildfire to the vegetation community (Zouhar 2003).

Noxious and invasive weed control can occur by a variety of ways including chemical, prescribed fire, biological, and mechanical or a combination (Prather et al. 2002). The effectiveness in weed control on BLM western rangeland is being weighed along with environmental concerns and consequences in a programmatic Environmental Impact Statement analysis, *Environmental Impact Statement for Vegetation Treatments, Watersheds and Wildlife Habitats on Public Lands Administered by the BLM in the Western United States, Including Alaska (Vegetation EIS)*. After any weed control treatment such as a prescribed fire or mechanical treatment, proper rehabilitation is essential to deter the re-establishment of weeds. This is the reason for the large expanses of crested and intermediate wheatgrass that occurs in some of the grazing allotments. Encouraging the growth and productivity of desirable vegetation would most likely inhibit the re-establishment of the invasive weeds. The degree and type of rehabilitation management would depend of the nature and severity of the weed control treatment. Changes in grazing practices may be all that is needed on rangelands where minimal weed control has been implemented. However, rangelands where wildfire or prescribed burns have occurred would need aggressive rehabilitation practices to reduce the chances of weed domination before desirable plants can become established. Implementation may include soil erosion control and the seeding of desirable native and non-native perennial grasses and perhaps shrubs and forbs. Appropriate seed mixtures of native and non-native plants seeded at appropriate times are affective in becoming quickly established and not allowing weed seedlings to take root.

Alternative 2

Alternative 2 allocates vegetation production based on objectives identified for the Management Unit Areas in the 1987 RMP. Permitted grazing levels would be limited to proposed 20-year use identified in the Jarbidge RMP Record of Decision. Noxious and invasive weed management should be similar to that under Alternative 1.

Alternative 3

This Alternative would issue grazing permits based on preexisting levels and TNR permits would be authorized in addition to the permitted level limited to the “historic range of use”. Noxious and invasive weed management should be similar to that under Alternative 1.

Alternative 4

This Alternative would authorize grazing operations under new permits at the present permitted levels. Noxious and invasive weed management should be similar to that under Alternative 1.

4.6 Fire Ecology

Wildfires can have significant environmental impacts on soils, forage resources, fish, wildlife, recreation, air and water quality, visual resources, archeological sites, utility corridors and facilities, and human welfare in the grazing allotments. The buildup of flammable vegetation such as big sagebrush and cheatgrass to hazardous levels is a concern. Considerable resources are required to mitigate the effects of wildfire on livestock forage and other ecological concerns. The establishment of cheatgrass has increased fuel loadings, accelerated the buildup of dead plant material, and changed the historic fire regime with more frequent and intense fires. Increased fuel loadings from cheatgrass would increase wildfire severity and intensity.

Various fuel treatments, including prescribed fire, mechanical, chemical, and biological (including grazing) can be used to reduce the buildup of cheatgrass. After any fuels reduction treatment such as a prescribed fire or mechanical treatment, proper rehabilitation such as the seeding of perennial grasses such as Bluebunch wheatgrass, Big Bluegrass, Siberian Wheatgrass or Crested Wheatgrass as it has occurred in the past is essential to deter the establishment of weeds and reduce soil erosion. Encouraging the growth and productivity of desirable vegetation would most likely inhibit the re-establishment of invasive weeds and minimize soil erosion.

Alternative 1 (Proposed Action)

Alternative 1 would authorize grazing operations under new permits and allocate vegetation production based on the application of a uniform formula (Appendix A). Temporary Non Renewable (TNR) permits would be available for areas dominated by annual vegetation on a yearly basis. Under Alternative 1, permitted AUMs would increase above the previously permitted AUMs in 11 of the 18 allotments. However, for most allotments, the increase is smaller than the amount of Temporary Non Renewable (TNR) use in the highest year such use was authorized in the past 13 years on most allotments. Under this alternative, TNR use would continue to be allowable in areas dominated by annual vegetation, and total authorized grazing levels in the allotments would change only slightly in comparison with historic levels. Therefore, acreage of wildfire would not be expected to change because of the proposed grazing management.

Alternative 2

Alternative 2 would limit permitted grazing levels to the proposed 20-year use levels identified in the Jarbidge RMP (USDI 1987a). Permitted use would be considerably higher than existing permitted use in most allotments; however, no TNR use would be authorized. Because no TNR use would be allowed, some allotments (e.g., Bruneau Hill) could pose an increased fire hazard on years of high cheatgrass production. Therefore, this alternative could increase fire ecology and management concerns in comparison with the existing situation.

Alternative 3

Alternative 3 would issue grazing permits based on pre-existing levels and TNR permits would be authorized in addition to the permitted level, limited to the historic range of authorized use (Table 2.1). Fire ecology and management concerns under Alternative 3 would be similar to those under the existing situation, and also to those under Alternative 1.

Alternative 4

Permitted grazing use levels under Alternative 4 would be the same as the present permitted use (Table 2.1). However, no TNR use would be authorized; therefore, total authorized use would be considerably less than the historic range of authorized use. The decrease in total authorized grazing use would increase fire ecology and management concerns, particularly in areas dominated by annual vegetation.

4.7 Soils

Soils are the foundation of rangeland health, impacting a wide range of ecological processes, and interconnected to the health of vegetative resources. Livestock grazing can have a range of impacts on soils due to inherent variability of soil structure, soil conditions, climate, and topography. Assessing the impact of grazing on soils is most directly measured by impacts on soil erosion (wind and water) and compaction, but other indicators of soil quality are often interrelated, including changes in soil crusts (physical or biological), organic matter, microorganisms, or nutrient cycling.

Soil quality is not indicated as a specific rangeland health indicator (USDI and BLM, 1997), nor is it a specific management guideline (Section 2.3.1). However soils are integrated to varying degrees into each rangeland health indicator and management guideline, and are directly related to the health of vegetative resources and impact water quality.

Alternative 1 (Proposed Action)

Allocating vegetative resources based on the proposed formula in Alternative 1 results in AUMs either remaining at present levels (7 allotments) or increasing (11 allotments) compared to the present level, but within the historical range of AUMs (Appendix A). This Alternative, as with all of the Alternatives, also includes the application of the recommended management guidelines, which target a defined percentage of utilization of vegetative resources and/or a percentage alteration in key areas (i.e. stream banks). Temporary non-renewable permits (TNR) would also be available, but appear to be applicable to limited areas dominated by annual vegetation, and/or for the purpose of reducing fuels associated with controlling wildfires (Section 2.1).

The direct environmental consequences of this Alternative would be impacts on soil erosion and compaction to varying degrees. The extent of soil erosion (wind and water) would largely be influenced by vegetative cover, while the extent of soil compaction may be influenced more by the intensity and durations of grazing pressure and the soil type and condition during the grazing period.

Compaction occurs when the soil aggregates are pressed together, resulting in reduced pore space and infiltration rates, and increased runoff (USDA-NRCS, 2001). Sandy loams, loams and sandy clay loams are more easily compacted than other soils. Soil compaction can result from persistent trampling, especially when the soil is moist or wet (Warren, et.al., 1986a). In areas frequented by livestock, such as for water or shade, compacted trails can initiate

runoff channels and gully erosion (Thurow, 1991). Furthermore, higher intensity grazing can increase compaction rates (Flory, 1936 and Gifford and Hawkins, 1978). Rest periods can allow for some hydrologic recovery (Warren et. al., 1986b,c,) however, recovery can be slow. Compacted soil layers regain porosity through cycles of wetting and drying, shrinking and swelling, and through vegetative re-growth, which can take years, depending on the severity of the compaction.

Soil erosion occurs as the result of wind or water. Water erosion is caused by the impact of raindrops on bare soil and by the power of running water on the soil surface. Sheet erosion is the uniform removal of soil, while rill and gully erosion, occurs when concentrated runoff cuts channels into the soil (USDA-NRCS, 2001). Wind erosion occurs when the windspeed at the soil surface is sufficient to lift and transport soil particles. Moist soils and soils with stable aggregates, such as those with higher clay or organic matter content, are less susceptible to wind erosion compared to soils with higher sand content (Brady, 1990). Water and wind erosion are both exacerbated by a lack of vegetative cover that exposes the topsoil to loss.

A direct impact of Alternative 1 would likely be a decrease in soil erosion potential through out most allotments due to an improvement in the vegetative coverage from the implementation of the management guideline recommendations. However, key areas to monitor should include areas that are especially susceptible to erosion. The more vulnerable areas to water erosion would include steeper slopes, stream banks and washes or dry riverbeds that are especially prone to soil loss during infrequent, but high intensity precipitation events. The soils more vulnerable to wind erosion include soils categorized as moderate to highly erodible, such as soils in the Bruneau Hill allotment (Figure 3.7, Section 3). These areas that are more vulnerable to soil erosion through the impacts of grazing should be monitored more closely, and grazing impacts evaluated more frequently. Frequent evaluation is especially important because exposed soil recovers slowly, while soil erosion events can occur suddenly. The effectiveness of Alternative 1 in reducing the soil erosion potential is dependent on the level of monitoring and enforcement of the management guidelines.

Soil compaction may be impacted in a complex manner with areas of both improvement and degradation. Allotments that would support the same number of AUMs as the current level may not experience a change in the depth or extent of compacted soils as compared to present levels.

Allotments with increased AUMs, or TNR permits issued during periods when the soil is wetter, may experience more intensive grazing pressures during periods when the soil is more vulnerable to compaction, resulting in deeper, more widespread soil compaction.

However, from a more complex perspective, if implementation of the management guidelines results in livestock having access to grazing areas for shorter periods of time the net impact may be a decrease in the level or severity of soil compaction. A shorter grazing period could indirectly limit access to soils susceptible to compaction, such as low lying or seasonally wet soils. Limiting the impact on vegetative growth could also improve the vigor of regrowth, including root expansion, which could improve soil porosity in compacted layers. A shorter grazing period would also produce longer rest periods. The overall result may be less compaction in the deeper soil layers and the potential for faster, more complete improvement in the soil structure during periods of grazing succession.

Conversely, if implementation of the management guidelines results in livestock grazing in areas for longer periods of time, or at greater intensities, the likelihood increases for deeper, longer lasting and more widespread damage to soil structure from access to more easily compacted soils, or heavier traffic during wetter periods when soils are more vulnerable. Although soil compaction can be limited to areas of repeated use, such as footpaths, resting areas, and water sources, longer periods of access may increase the extent and severity of the soil compaction. This type of damage to the soil structure would be difficult to reverse, leaving areas of soil vulnerable to erosion and invasive vegetative species. The loss of vegetative cover and decreased infiltration may initiate irreversible soil loss from erosion, especially considering livestock tend to frequent seasonally dry river beds and washes which often are more accessible, provide cover, and support more abundant forage. Recovery of areas with more severe compaction may require an extended period of grazing succession, likely more than one season.

Monitoring and enforcing the management guidelines would be the primary factor controlling the impacts of this Alternative on soils. The guidelines are primarily directed toward assessing vegetative growth and coverage, which can be directly related to erosion control. However, the affect of implementing the guidelines on the extent and severity of soil compaction is difficult to predict. Soil compaction may need to be assessed more directly to determine the actual impacts of implementing the management guidelines on this soil quality factor.

Range improvement projects may also directly impact soils. Projects that disturb the soil, or require construction equipment, such as pipeline construction, may expose soil to erosion and compaction. These impacts can be ameliorated by minimizing removal of vegetative cover, re-vegetating temporary roadways at the projects completion, and stabilize exposed areas.

Implementation of the management guidelines may also indirectly impact several related soil quality factors such as physical and biological crusts, organic matter content, microorganisms and nutrient cycling.

Physical crusts are a thin layer of reduced porosity and increased density at the soil surface, generally indicative of reduced organic matter or erosion, and can impede seedling emergence and water infiltration (USDA-NRCS, 2001). Biological crusts are living communities of lichen, cyanobacteria, algae and moss, growing on the soil surface and binding it together, generally reducing runoff and increasing nutrient cycling. Organic matter is composed of plant, animal and microbial residue in various stages of decomposition, and serves to bind soil particles together, improving porosity, infiltration, root penetration and reducing runoff and erosion. Soil microorganisms include bacteria, fungi, algae, protozoa, nematodes, mites, insects and earthworms, that interact with plant roots and drive nutrient cycling.

Detrimental physical soil crusts would likely decrease due to an increase in soil organic matter related to the increased vegetative cover as a result of implementation of the management guidelines. The more beneficial biological crust may increase for the same reasons. However, the fragility of biological crust to trampling could also result in their presence remaining unchanged or decreasing, depending on the intensity, frequency, timing and size of the area of disturbance. Physical soil crusts can also be destroyed by trampling, however, they often reform during the first rainstorm after disturbance.

If more direct monitoring of the soil structure indicates an increase in the extent and severity of soil compaction due to implementation of the management guidelines, the cumulative effects may be erosion loss and degradation of the soil structure that could require extended recovery periods or become irreversible. However, if the implementation of the management guidelines produces an improvement in both the vegetative coverage and soil structure, the cumulative effect could be a cascade of positive changes in the natural cycles of the soil environment. Plant litter or duff, organic matter

content, water infiltration and water storage would all increase. These factors form a cycle that supports more vigorous microbial processes and improves nutrient cycling, which in turn supports additional plant growth.

Alternative 2

Alternative 2 authorizes grazing permits at the proposed 20-year use levels (Appendix A). The level of AUMs are similar to the level permitted in Alternative 1, however, TNR permitting is eliminated. The impacts of Alternative 2 would therefore be similar to those discussed under Alternative 1, although concerns over season soil compaction due to TNR permitting would be eliminated. The implementation of the management guidelines would again be the major factor affecting soil resources.

Alternative 3

Alternative 3 authorizes grazing permits essentially at the existing levels, but also authorizes TNR's up to the historical limits, which would increase the seasonal grazing pressure on selected areas. TNR's are authorized to take advantage of abundant forage, which most likely appears in spring. Soils are often wetter during this season and therefore more vulnerable, especially to compaction. Increasing grazing pressure during this vulnerable period could therefore increase the severity of soil compaction as discussed in Alternative 1. The cumulative impact over time would be increasing areas of less productive soils as compaction deepens and becomes more widespread because compacted soil would be unlikely to recover between grazing cycles.

Alternative 4

Alternative 4 authorizes grazing permits essentially at the existing levels, but reduces the historic range of authorized use and eliminates TNR authorization. However, improvement projects would also be very limited. Improvement projects protect sensitive areas by limiting livestock access and building water sources away from these areas. Although the number of AUMs would either remain the same or decrease compared to Alternative 1, the net affect may be an overall degradation of soil resources. The tendency of livestock to congregate around water sources, which are often associated with sensitive areas vulnerable to soil compaction, essentially negates the value of reducing the grazing pressure. Therefore, the cumulative impact would be an increasing area of less productive soil due to increased compaction in sensitive areas where livestock are likely to congregate. Livestock with access to more sensitive areas may also affect the vegetative cover in localized areas, potentially leading to additional erosion problems.

4.8 Surface Water Quality

This section describes the potential consequences of livestock grazing on water resources and identifies likely effects of management Alternatives. The potential effects of livestock grazing were considered in terms of effects on surface water quality. The more significant effects of livestock grazing on water quality are nutrients from livestock waste, and sedimentation due to loss of vegetative cover, stream bank erosion and degradation of riparian areas.

Water quality is indicated as a specific rangeland health indicator in the Idaho Standards for Rangeland Health (Standard 7; USDI and BLM, 1997), and directly impacted by two of the management guidelines addressing stream segments functioning at risk (Guidelines 4 and 5, Section 2.3.1) and indirectly by guidelines assessing vegetative coverage and stream bank alterations.

Alternative 1 (Proposed Action)

Alternative 1 would result in a general improvement in water quality through improved vegetative cover resulting from implementation of the rangeland management guidelines, which are a part of each Alternative. Greater vegetative cover decreases erosion and increases interception and uptake of nutrients, thereby lowering sedimentation and nutrient impacts on water bodies within livestock grazing areas. Greater flexibility in the grazing season-of-use could also minimize grazing impacts during wetter periods, when the threat of sedimentation from precipitation events is higher. However, issuing TNR permits during wetter months, when annual vegetation is likely to be highest, may increase the likelihood of seasonal sedimentation and nutrient impacts on water quality. Range improvement projects to fence off or limit livestock access to more sensitive areas, such as 303(d) streams, stream banks and riparian areas, would also minimize the impacts of livestock grazing on nutrients and sedimentation associated with degradation of water resources. The cumulative impact of the improved vegetative cover would be improved water quality that is more sustainable and resistant to seasonal degradation. The effectiveness of Alternative 1 in improving water quality is dependent on the monitoring and implementation of the management guidelines.

Alternative 2

The impacts of Alternative 2 would be similar to those discussed in Alternative 1, except potential seasonal impacts on water quality due to TNR permitting would be eliminated. Again, the

implementation of the management guidelines would be the major factor impacting water quality.

Alternative 3

Alternative 3 authorizes grazing permits essentially at the existing levels, but also authorizes TNR's up to the historical limits, which would increase the seasonal grazing pressure on selected areas. TNR's are authorized to take advantage of abundant forage, which most likely appears in spring. Despite the advantages achieved by implementing the management guidelines, increased stocking rates during wetter months may minimize these gains. Vegetative cover is not uniform, and is likely to be affected more quickly under the heavier stocking rates, increasing the likelihood that intense precipitation events or runoff from snowmelt could increase sedimentation and nutrients in water bodies. Also, streams or intermittent water flows are more likely to directly carry nutrient and pathogens from cattle manure directly downstream. The cumulative effects of erosion could create an environment in which seasonal water quality issues would persist, potentially worsening depending on the degree of annual vegetative recovery.

Alternative 4

Alternative 4 authorizes grazing permits essentially at the existing levels, but reduces the historic range of authorized use and eliminates TNR authorization. However, improvement projects would also be very limited. Improvement project protect sensitive areas by limiting livestock access to water bodies and building water sources away from sensitive areas. Although the number of AUMs would either remain the same or decrease compared to Alternative 1, the net affect may be low level, but more widespread, water quality issues because access to water bodies is not being controlled and livestock tend to congregate around water sources. The cumulative impact could be no change, or a slow degradation of water quality over time.

4.9 Wetlands and Riparian Areas

Riparian and wetland areas are important for a variety of reasons. Because they are very limited in extent and closely associated with water, they support a number of plant and animal species that otherwise would not occur in prairie ecosystems. These habitats are also important for stabilizing stream banks and for maintaining water quality and quantity by absorbing some of the excess water during high flows, gradually releasing water during low flows and acting as filters for sediment and attached pollutants. The following subsections describe the potential direct and indirect effects associated with

the Alternatives and measures designed to reduce the risk of adverse impacts.

There are no live streams or other natural open waters in the Coonskin AMP, East Juniper Draw, Grassy Hills, Noh Field and Echo 4 allotments. Therefore, no analysis of livestock impacts in regard to riparian-wetlands is required for these allotments. The 71 Desert, Antelope Springs, Brackett Bench, Camas Slough, Cedar Creek, Crawfish, Flat Top, North Fork Field, Pigtail Butte, Three Creek #8 and Winter Camp allotments all contain riparian-wetland resources. The effects of livestock grazing on these resources are analyzed by the four Alternatives described in Section 2 of this EA.

Current functioning condition of the riparian areas in the study area is described in Section 3.9.3. Livestock and/or lack of fence maintenance appear to be the primary reason that segments are either functioning at risk (FAR) or non-functional (NF). Other factors affecting proper functioning condition (PFC) include irrigation diversions. Segments in PFC have healthy riparian areas with sufficient vegetation and stable banks to protect the stream.

Rangeland health standards for riparian and wetland areas are not being met on 71 Desert, Antelope Springs, Brackett Bench, Cedar Creek, North Fork Field, Pigtail Butte, and Winter Camp allotments. Only one allotment, Three Creek #8, currently meets this standard. The status for Bruneau Hill is currently unknown due to access to the Bruneau River riparian areas. The Bruneau River is outside of the Bruneau Hill Allotment; however, livestock from the allotment are accessing the river. The proposed Roberson Trail Gap fence would prevent livestock from reaching the area in the future. Causes of Standards not being met may include season of use being too long, permitted yearly hot season of use in riparian areas, topography and fence locations encourage livestock to concentrate in riparian areas or, in general, poor distribution of use.

The primary effects of livestock grazing include removal and trampling of vegetation, compaction of underlying soils, and dispersal of exotic plant species. Grazing can also alter hydrologic regimes, accelerate erosion and reduce plant reproductive success and/or establishment of plants. Grazing can have a negative effect on vegetation by decreasing vigor and biomass and altering species composition and diversity. The effects of excessive use on woody vegetation can also have a negative affect on the overall health of riparian and wetlands areas (Kauffman and Krueger, 1984). However, researchers have found that changes in management of a riparian site can dramatically restore lost shrub canopy cover and

improve herbaceous species composition (Crough 1979, Davie 1982, Hansen 1985). Changes in grazing systems have successfully rehabilitated many riparian and wetlands areas. The damage caused by hot season or season-long grazing is well documented (Marcuson 1977, Severson and Boldt 1978, Windel et. al., 1986, and Platt et. al., 1987). Grazing management that considers factors such as: alternating the season of grazing, grazing riparian areas when banks are dry, allowing adequate time for re-growth, and resting riparian pastures periodically have improved or restored moderately disturbed riparian-wetland areas without excluding cattle for long periods (Kauffman and Kreuger 1984). Conversely, riparian areas that are in a severely deteriorated condition, continued grazing damage would result in long-term damage to the riparian zone. Temporary livestock exclusion from severely degraded riparian areas has a dramatic and rapid rate of recovery, i.e. excluding livestock from high risk riparian areas with poor recovery potential (Elmore and Kauffman 1994).

Currently, there are no MGs for livestock grazing within the study area allotments. The riparian areas are not monitored yearly for stubble height to trigger livestock moves with the exception of North Fork Field. Stubble height has not been a term of the current permits. The same is true for browse monitoring.

To minimize or avoid negative effects on riparian and wetlands, measures such as fencing, water gaps, pipelines, rotating or limiting the season of use in riparian and adjacent upland areas, avoid repeated grazing when soils are saturated or inundated, and monitoring riparian species (herbaceous stubble height and woody browse) are effective management tools.

The following sections describe the direct and indirect environmental consequences of implementing the proposed action, by allotment, which provides a basis of comparison between Alternatives 2, 3 and 4. Table 4.4 is included to identify estimated changes by Alternative, Table 4.5 provides relative assessment of effects, and Table 4.6 is a comprehensive summary of key differences between Alternatives and allotments that effect riparian resources.

Impacts Common to all Alternatives

Potential direct grazing impacts to riparian and wetlands include continuing soil compaction by livestock trampling, stream bank instability, temporary loss of wetland habitat, changes in species composition, increased risk of weed invasion, changes in groundwater recharge and discharge

zones, and soil erosion and sediment loading. The degree of potential direct effects to riparian areas or wetlands is dependant upon the existing condition of the riparian-wetland habitat, season of use, residual vegetation cover, adequate re-growth and rest for plants, and species composition (woody and/or herbaceous). Indirect effects may include permanent loss of herbaceous and woody species, loss of wildlife habitat, loss of floodplain and impaired or degraded streams.

The most important proposed management guidelines (MGs) relating to riparian-wetland habitat are MGs 5 and 8. These MGs, respectively, require at least a six-inch stubble height to be left in riparian areas, and restrict the frequency of browsing on key riparian shrubs to a maximum of 50 percent. MGs 6 and 7 are included in Table 4.4 and 4.6, but they focus primarily on aquatic conditions and will not otherwise be addressed in this section. MG 11 (providing periodic rest and deferment during critical growth stages), MG 14 (limiting browsing in aspen groves), and MG 15 (restricting the placement of supplemental feeds within specified distances of identified sensitive areas) would also be instrumental in riparian recovery. For a complete description of the MGs, see Section 2.6.

Overall, MGs 5 and 8 would most likely be effective in maintaining or improving stream reaches in PFC or FAR with an upward trend or approximately 19.3 stream miles. However, in severely disturbed stream reaches in FAR (downward trend) or NF (approximately 19.7 miles), these MGs would be an improvement from the current status, however recovery may be slow or in some cases stream reaches may continue to degrade unless areas are rested or given adequate time for recovery.

MG 5 uses a six-inch stubble height on key riparian species to trigger livestock removal or rotation. The recommended height of forage residue following grazing differs according to environmental conditions (Clary and Leininger, 2000). A six-inch stubble height would usually maintain plant vigor, trap sediment, and protect soils from compaction when trampled. In woody stream banks, moving livestock after they have grazed the forage to 6 inches is necessary to ensure that they are not feeding on willows or other riparian trees because of a lack of non-woody forage. Once the utilization objective inside the pastures is met, livestock are removed, irrespective of the number of livestock involved.

MG 8 would allow 50 percent of the available leaders to be nipped or browsed (comparable to 25 percent utilization, according to Stickney, 1966) before livestock rotation or removal. Heavy browsing

harms most shrub and tree species, and can lead to changes in the composition of the riparian vegetation community. Most riparian species can tolerate utilization levels of 50 percent or greater (Mosely et al., 1999). Willow and aspen have been shown to reproduce well as long as herbaceous utilization by livestock does not exceed 70 to 65 percent. Livestock browsing on riparian shrubs increases with decreased palatability and availability of herbaceous vegetation. Maintaining the six-inch stubble height should reduce browsing of woody vegetation.

Within allotments where woody species are an important goal for restoration, season of use is also important. Late spring grazing season allows livestock to shift from use of willows to grass, resulting in an increase in willow growth. All Alternatives would monitor forage utilization, and condition of woody browse in riparian areas to determine when to remove livestock. Grazing and browsing may affect willow reproduction because willow seeds are short-lived and not stored in the soil seed banks (Mosely, et al 1999). First-year willow seedlings are sensitive to browsing or trampling, due to shallow root systems. Functionality ratings would identify trends (improvements or lack of) to assess changes in management practices.

Riparian improvement projects common to all Alternatives include expanding the riparian enclosure at the headwaters of Cedar Creek (within the Cedar Creek allotment) to the east. A water gap and drift fence at Three Mile Crossing would also be constructed to exclude cattle from most of Cedar Creek in the Pigtail Butte Allotment. It is expected that this would promote improvement in the overall health of Cedar Creek within these Allotments. The absence of livestock should provide a noticeable improvement in functioning condition and subsequent benefits to the stream bank stability for approximately 3.6 miles of Cedar Creek currently in poor condition.

Alternative 1 (Proposed Action)

Under this Alternative, MGs, and all riparian and wetland improvement (Table 2.2, Section 2) would be implemented. The authorized grazing use would be less than the maximum allowed under the historic range of use, as shown on Table 2.1, Section 2. Although the allowed season of use spans the entire year, grazing would not occur for the entire time. This increases management flexibility regarding when to schedule livestock in each allotment and rotate the use. This Alternative would allow adjustments based on annual fluctuations in climatic conditions (drought). The “adaptive” grazing system would provide for critical growing season rest, and for selecting certain times of the year to graze based

on vegetation conditions. Adaptive management would allow for adjustments to meet resource needs, based on current-year management. Monitoring (Section 2.1) would allow BLM to make management adjustments, if necessary, to maintain a healthy riparian plant community.

71 Desert

Clover Creek is assessed at FAR-upward trend. MGs 5 and 8 would be applied to this reach of Clover Creek. These guidelines would limit use to a six-inch stubble height on key hydrophytic plant species and no more than 50 percent frequency of nipping would occur on current-year leaders of willow species. A fence would be installed to create a riparian pasture for Clover Creek. The AEC pipeline would be extended to the north approximately 6 miles into Lookout Pasture to provide water for the northernmost Pastures. Fencing the riparian pasture and excluding livestock grazing until the stream has recovered would result in immediate improvement of riparian health. The application of these guidelines would likely promote improvement in the overall health of this riparian zone and allow for movement toward PFC.

The use of riparian pastures is based on condition and vegetation. Riparian areas are managed separately from uplands. Season of grazing selected should favor growth of desired vegetation and to deter propagation of undesirable species. MGs would ensure monitoring of riparian herbaceous species and woody vegetation which would allow BLM to make management adjustments, if necessary, to maintain a healthy and vigorous riparian plant community.

Antelope Springs

Bear Creek, located in the Beaver Meadows Pasture, was assessed at FAR with a downward trend. Although not many sedges or rushes were present, mature willows represent the overstory as well as some hydrophytic grasses. Under the provision of MGs 1, 5, 8, and 11 livestock use would be restricted. Recovery toward PFC would begin with the implementation of these guidelines; however the rate of recovery would depend upon season of use and whether or not the pasture is allowed adequate recovery time.

Brackett Bench

Antelope Springs Creek is assessed at FAR with a downward trend. This 1.3-mile segment historically contained a variety of hydrophytic species (sedges and rushes). Under Alternative 1, riparian improvements include constructing a fence around Antelope Springs Creek to create a riparian pasture in this area. The implementation of MGs 5, 8 and 11 would maintain the PFC rated streams (Corral Creek

and part of China Creek). However, for Browns Creek and the rest of China Creek stream reaches rated as FAR, the application of the MGs would help reduce the effects of livestock use. These streams would improve slowly, but would still be making progress towards meeting the standard of PFC. The rate of improvement is contingent upon season of use and allowing adequate recovery and rest.

Camas Slough

Under the proposed Alternative, the existing riparian enclosure would be expanded to cover the entire wetland/wet meadow. In addition, the water trough presently at the edge of the wet meadow would be relocated at least 0.4 miles to the west. With the implementation of these protective measures, direct and indirect effects associated with livestock would be minimized. Invasive species such as Canada thistle, currently on site, may continue to be problematic. Limited grazing or burning may be necessary within the enclosures to reduce standing biomass.

Cedar Creek

Cedar Creek represents approximately 6.6 miles within this allotment and inventoried reaches include PFC, FAR with no apparent trend, and FAR with a downward trend (this reach received heavy use from livestock). Portions of this creek have been fenced to exclude livestock use but the fences are in need of repair. Stream reaches heavily influenced by livestock (FAR downward trend) would be able to recover through the repair and maintenance of existing fences to protect the majority of Cedar Creek from livestock use. Proposed riparian-wetland improvements for this allotment include enlarging the enclosure at the headwaters of Cedar Creek by expanding it to the east, as well as expanding the enclosure at Sage Hen Springs. The combination of the fence repair, enclosure and existing canyon rims, livestock use along Cedar Creek would be prohibited except at the water gap. Riparian MGs would apply to other unfenced riparian areas within Cedar Creek allotment where livestock use is allowed. The implementation of the MGs 1 and 3 would promote upland vegetation to help control the erosion and sediment in the channel.

Flat Top

Approximately 4.4 miles of stream reach has been assessed at PFC. Stream banks are 90 to 95 percent vegetated and stable. Continued monitoring of this stream reach would identify changes in the current functionality rating, which would trigger changes in the MGs.

North Fork Field

Rocky Canyon Creek and Timber Canyon Creek were assessed at FAR with a downward trend. Wetland vegetation and willows are present. Under this Alternative, riparian improvements include constructing a fence to segregate federal land riparian areas in the Timber Canyon Creek and Rocky Canyon Creek from the remainder of the allotment and manage both areas as riparian pastures. Consequently, overall livestock use within these riparian corridors would be less than what has occurred historically. Fenced riparian pastures would be excluded from grazing until a rating of PFC was reached. Under MGs 5, 8, and 11, the riparian and wetland resources would be maintained. The presence of desirable herbaceous and woody riparian vegetation would increase (especially Rocky Canyon Creek).

Pigtail Butte

Cedar Creek (stream mile 17.3 – 18.8) is rated as FAR with a downward trend. Irrigation releases and livestock use influence this stream segment. The stream banks lack riparian species and as long as irrigation releases continue, it is unlikely that the current functionality of this 1.5-mile segment of Cedar Creek would improve. Cedar Creek from stream mile 15.2 to 17.3 or 2.1 miles was rated as NF and also is influenced by irrigation releases and livestock grazing. Irrigation releases result in erosion of the floodplain and stream banks.

The functionality of this portion of Cedar Creek would improve with the reduction of use by livestock. Proposed riparian improvements include a water gap at Three Mile Crossing and a drift fence to exclude livestock from the majority of Cedar Creek to improve the riparian area. Implementation of MGs 5 and 8 would be expected to improve riparian health on 2.1 miles of Cedar Creek.

House Creek is rated NF. Willows and riparian herbaceous species (both early seral type species) have become established and cut banks have decreased as riparian vegetation increases. The site needs another assessment to determine current functionality. It is likely that this part of House creek is FAR. The implementation of MGs 1 and 2 would aid upland vegetation and control sedimentation. Considering the existing riparian vegetation, MGs 5 and 8 would likely improve overall site conditions.

The proposed fence project on the rim of Cedar Creek Reservoir would allow for separate management of the Reservoir and approximately 0.3 miles of House Creek, providing an additional opportunity for improving riparian resources in that reach of House Creek.

Three Creek #8

Three Creek segment 11.8 to 12.1 is heavily used by livestock and is rated NF. Much of the floodplain and stream banks are grazed to bare ground. Woody vegetation has been heavily browsed and desirable riparian herbaceous species are non-existent. Another segment of Three Creek is rated FAR with a downward trend. Woody vegetation provides most of the stream bank protection. Recovery toward PFC would begin with the implementation of these guidelines; however, on severely disturbed areas, it is unlikely that recovery toward PFC would occur without long-term rest and/or seasonal rotation. The remaining portion of Three Creek is rated as PFC.

Winter Camp

Most of Clover Creek is assessed at PFC (7.8 miles). Approximately 1.5 miles of this creek is rated as FAR with an upward trend, banks are stable and well vegetated. The remaining 1.3 miles is assessed at FAR no apparent trend. A gap fence in this portion of the creek is in good working order but does not prevent livestock use downstream of this gap. Occasionally the gate is left open allowing livestock to drift into the exclosed portion of Clover Creek, in addition, livestock can pass through wide gaps between the panels. MGs 8 and 11 would reduce the effects of livestock use and maintain the PFC rating. Riparian improvements include extending the AEC pipeline into the west pasture to provide a reliable source of water in the uplands away from Clover Creek. Once constructed, this would also reduce the impacts of livestock along the creek, improve livestock distribution, and allow for riparian-wetland resource recovery.

Direct and Indirect Effects of the Proposed Action

Under this Alternative the permitted livestock AUMs would generally be higher compared to the present AUMs. This Alternative allows for a flexible season of use, implementations of MGs and riparian improvements (Table 4.6). Under the proposed action PFC would most likely be reached sooner and on more allotments than with the other Alternatives (Tables 4.4 and 4.5). Varying the season of use annually would change the nature and extent of the possible impacts which can result from livestock grazing. Varying the season livestock spend in riparian areas can be an important factor in the condition of these areas (C. Marlow 1991) and through a combination of rest and removing livestock in sufficient time to provide for re-growth is a leading factor to successful riparian restoration. The flexibility of season of use allows for a “prescriptive” use of riparian areas and rotations best suited for riparian improvements.

Over the long term, improved riparian health can be expected on 20.4 miles of streams currently assessed at FAR and 2.7 miles considered NF. The proposed riparian pastures and streams where facultative wet or obligate species are present would most likely show rapid response to MGs. Severely disturbed streams that are allowed to rest, are expected to improve at a slower rate, but would still be making progress towards meeting PFC. If inadequate time is allowed for rest, these areas would likely remain static or decline. There would continue to be a lack of desirable riparian vegetation to hold banks intact during high water flows. Continued bank loss would lead to decreased flows, water tables and the riparian zones would shrink thereby impacting wildlife species that depend on these ecosystems for their habitat.

Potential direct and indirect impacts associated with a long grazing schedule may include excessive trampling of vegetation, soil compaction or damage to woody species prior to monitoring. Monitoring would, however, allow BLM to make management adjustment, if necessary, to modify the grazing and rotation schedule the following year to maintain and promote vigorous riparian plant communities.

New fence construction and maintenance would help control livestock and would have a positive impact on these allotments. Down-stream conditions would improve and sediment transport is reduced. There are no expected adverse impacts to streams or springs due to fence construction and maintenance.

Invasive species would probably continue to spread and in areas excluded from grazing, noxious weeds such as Canada thistle may increase. However, over the long term, the rate of spread would diminish and may reverse in some areas. Camas Slough was the only allotment where this weed was noted.

Alternative 2

The effects of Alternative 2 would be similar to those described under Alternative 1 because of the application of the MGs and riparian improvements. The primary difference under Alternative 2 is the season of use is more restrictive for six allotments with riparian resources. These include 71 Desert, Cedar Creek, North Fork Field, Pigtail Butte, Three Creek #8, and Winter Camp (Table 4.6). The restriction of season, under this Alternative, allows far less flexibility in management for these allotments affected. The remaining three allotments, Antelope Springs, Brackett Bench, and Flat Top, would be similar to Alternative 1, year-long season of use (Table 4.4). The livestock numbers are generally the same as Alternative 1.

Seasons of use:

- April to December: 71 Desert, Pigtail Butte and Winter Camp
- June to November: Cedar Creek and Three Creek #8
- July to November: North Fork Field

The time of year livestock are allowed to access riparian areas is critical to maintaining and restoring riparian health. Factors that determine the appropriate time to graze include; riparian soil moisture, dominant type of riparian vegetation and its period of peak growth and dormancy, as well as the reproductive characteristics of critical riparian plants.

Impacts associated with spring grazing include a greater potential for soil compaction, bank trampling and erosion. This is a critical period of plant growth and development and may affect plant vigor and may lead to changes in plant communities. The greatest bank damage occurs in late June to early July (C. Marlow 1985). Spring months offer greater herbaceous forage, improved distribution and less pressure on woody browse.

Winter use can benefit riparian conditions by improving livestock distribution and plant response (Masters and others 1996). This season of use generally prevents soil compaction and stream bank trampling. Livestock utilize standing dead herbaceous material. Impacts may include greater browse on riparian woody species, increased trampling and rubbing.

Fall grazing offers little time, if any, for re-growth on herbaceous and woody species. Adverse weather may draw livestock back into the riparian areas for protection. Fall use may result in browse of riparian shrubs. Bank alternation would be reduced under fall use because soils would be drier and more stable and less vulnerable to trampling.

Grazing during the hot summer season is generally considered the most injurious to riparian zones. Livestock tend to linger in riparian-wetland areas during the summer, increasing the potential for higher stream bank alteration and damage to riparian vegetation.. As palatability of herbaceous forage declines through the summer, livestock shift to browse on woody species. Late summer use would reduce trampling impacts on stream banks, but it may also result in heavy use of young woody plants.

Direct and indirect effects associated with Alternative 2 on Antelope Springs, Flat Top and Brackett Bench riparian-wetland resources would be no different than

Alternative 1. The remaining allotments have defined season(s) of use (Table 4.6). Limitations of the season of use may have a greater long term impact on allotments where grazing starts during the hot part of the summer (North Fork Field) or where specific targets for riparian improvement can not be achieved due to specified season of grazing (i.e. spring grazing would have a negative effect on stream banks). The proposed season of use for Three Creek #8 and Winter Camp allotments is the same or similar to the current season of use which may not allow for critical plant species re-grow and reproduction. Research has shown that timing the rest period appropriately and providing a sufficient duration of rest are more important than the specific grazing practices used (Leonard et al, 1997, Elmore, 1992). This Alternative may not allow for diversity and density of mid to late seral riparian species due to specified season of use.

Alternative 3

For all allotments, under this Alternative, the same season of use currently allocated in present permits would be prescribed in the new permits (Table 4.6). This allows far less flexibility in management because many of these allotments are used in conjunction with other allotments in a rotational grazing schedule. Limitations of the season of use may have a greater long term impact on allotments where grazing is limited to the hot part of the summer (Brackett Bench and North Fork Allotments). As described under Alternative 1, where both the current and proposed permitted season of use is quite limited, the flexibility of rotating the time of grazing would be limited under this option. This gives managers far less flexibility in rotating and determining the best season for riparian grazing. This Alternative also has the potential for increased livestock numbers. MGs for riparian areas could potentially be reached very quickly during the grazing period under this Alternative because of the greater number of livestock allowed to graze. Because this Alternative allows for the greatest number of AUMs to be grazed at one time, it would take a substantial commitment of resources to successfully implement the MGs. Under this Alternative, livestock would need to be rotated out to the next pasture because MGs would be reached in a short time frame. There is also a greater potential for mechanical disturbance from the increased hoof action which would result in unfavorable stream bank conditions, soil compaction and shrub damage.

If TNR permits were authorized at maximum levels, it would take a substantial commitment of resources to successfully implement the MGs. With higher levels of stocking, livestock would have to rotate out to the next pasture in a shorter timeframe compared

to Alternative 2. Monitoring would need to be conducted more often and there would be a greater potential for over-grazing in a short period of time, i.e. monitoring would need to keep pace with the level of livestock use.

If TNR AUMs were authorized at or near minimum levels, it is expected that the effects on riparian-wetlands would be similar to Alternative 1. This Alternative would require a greater commitment to successfully monitor MGs.

Alternative 4

Under this Alternative fewer riparian and wetland improvement projects would be implemented compared to Alternatives 1, 2, or 3 (Tables 4.4 and 4.5). This Alternative does not provide for fencing to be constructed to create a riparian pasture along Clover Creek; no fence would be constructed around Antelope Springs to create a riparian pasture in Brackett Bench allotment; no fence would be constructed along Bruneau Canyon in the Bruneau Hill allotment; no fences would be constructed to create riparian pastures along Timber Canyon and Rocky Canyon creek in the North Fork Field Allotment, and no fence in the Bruneau River Sheep Creek WSA. This Alternative would have a greater direct and indirect impact on riparian resources

compared to Alternative 1, 2 and 3 primarily because of the absence of riparian improvements.

Direct and indirect effects associated with Alternative 4 would be the same as Alternative 3 for season of use and MGs. Seasons of use under this Alternative would be the same as those currently permitted and those authorized under Alternative 3. This would lead to the same loss of flexibility in managing these allotments described for Alternative 3. Direct and indirect impacts associated with grazing the same time year after year would lead to decreased herbaceous and woody reproduction, loss of species diversity, increased weed invasion, soil compaction and a deduction in overall plant vigor and density. Although the lower stocking level would benefit upland vegetation, wetland and riparian areas would not necessarily receive less grazing use than under the other Alternatives. Without the option of authorizing TNR use, this Alternative could lead to larger, more intense wildfires and increased spread of cheatgrass and other exotic annuals

**Table 4.4 - Summary of Changes by Alternative
For the Nine Allotments¹ Having Riparian Resources**

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Grazing System²	Adaptive	Same as currently	Same as currently	Same as currently
Season of use (No. of allotments)	Year-long, flexible (9)	Year-long (3) Pre-determined seasons (6)	Year-long (3) Pre-determined seasons (6)	Year-long (3) Pre-determined seasons (6)
Total AUMs Proposed for the Nine Allotments³	27,560	27,182	22,368 – 36,296	22,368
Number of Riparian Improvement Projects⁴	9	9	9	2
MGs to Improve Riparian Resources⁵	5, 6, 7, 8, 11, 14, 15	5, 6, 7, 8, 11, 14, 15	5, 6, 7, 8, 11, 14, 15	5, 6, 7, 8, 11, 14, 15

¹ The nine allotments that have riparian resources include 71 Desert, Antelope Springs, Brackett Bench, Cedar Creek, Flat Top, North Fork Field, Pigtail Butte, Three Creek #8, and Winter Camp.

² Adaptive grazing systems allow flexibility in timing and rotation of use to adjust to observed conditions. Annual grazing licenses would be based on grazing management plans prescribing livestock movements through all pastures and allotments on public lands. Existing grazing systems are described in Section 3.2.

³ AUMs for each allotment under each alternative is presented in Table 4.6.

⁴ All proposed projects are described by allotment in Table 2.2.

⁵ The same MGs would be implemented in all alternatives. Monitoring of the MGs may be more difficult under Alternative 3 because of the greater amount of TNR use.

Table 4.5 - Relative Assessment of Effects on Riparian Habitat

Factors Affecting Riparian Habitat	Alternatives			
	Alt 1	Alt 2	Alt 3	Alt 4
Riparian improvements	HP	HP	HP	LP
Season of Use	HP	MP	LP	LP
Monitoring/Management guidelines	HP	HP	MP ¹	HP
Livestock Number	HP	MP	LP	HP

¹ May be more difficult to monitor due to higher levels of livestock.

HP = high positive; MP = moderate positive; LP = low positive effects.

4.10 Fisheries and Aquatic Resources

Riparian-wetland areas and aquatic habitat are functioning properly when adequate vegetation, landform, or large woody debris is present to: (1) dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; (2) filter sediment, capture bedload, and aid floodplain development; (3) improve floodwater retention and ground-water recharge; (4) develop root masses that stabilize stream banks against cutting action; (5) develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, and other uses; (6) and support greater biodiversity (BLM 1993).

The potential effects of livestock grazing on riparian zones and fish habitat are numerous:

- streambank shear and caving by trampling;
- streambank and channel erosion from exposed soils;
- adverse changes in riparian plant species composition and age structure;
- reduced streambank vegetative protection;
- reduced riparian/wetland width;
- drainage of wet meadows and lowering of water tables;
- increased water temperatures caused by decreases in canopy cover;
- adverse changes in water velocities and channel morphology and sinuosity;
- changes in nutrient cycling;
- changes in streamflow regimes, sediment transport, and stream substrate composition;
- increases in stream width/depth ratios;

- adverse changes in beaver dam construction; and
- reduction of undercut streambanks and overhanging vegetation.

In general, evaluations of livestock grazing strategies for stream riparian areas have shown that corridor fencing with livestock exclusion, rest rotation with seasonal preference (sheep only), and rest or closure, followed by riparian pasture (depending on the prescription) are the most compatible for good to excellent stream and riparian conditions and fishery needs. Continuous season-long grazing was incompatible with riparian vegetative response, streambanks, and fishery needs (Platts and Nelson 1989; Kovalchik and Elmore 1991; Buckhouse and Elmore 1991).

Impacts Common to All Alternatives

Changes in watershed and stream aquatic habitat conditions and potential effects on sensitive fish production over time would be most heavily influenced by changes in riparian habitat conditions adjacent to all perennial and intermittent streams (see Section 4.9, Wetlands and Riparian Areas). Important aquatic conditions that are directly related to riparian conditions include woody debris inputs, shade (to maintain natural water temperature regimes), streambank stability (to maintain natural levels of sediment input), streamflow regimes, appropriate stream width/depth ratios, and number and quality of pools. Site-level variables, including geomorphic (channel type and gradient), channel units (pools, riffles, large substrate, and woody debris) would change little over the short term. Watershed level variables, including cumulative erosion and sediment response and water temperature regimes, would also not change substantially in the short- or possibly long-term

Table 4.6 - Summary of Key Differences for Riparian Resources by Alternative and Allotment

Allotment:	71 Desert	Antelope Springs	Brackett Bench				Camas Slough	Cedar Creek	Flat Top	North Fork Field		Pigtail Butte		Three Creek #8	Winter Camp
Water body:	Clover Creek	Bear Creek	Corral Creek	Browns Creek	Antelop Springs	China Creek	Camas Slough	Cedar Creek	Clover Creek	Rocky Canyon	Timber Canyon	Cedar Creek	House Creek	Three Creek	Clover Creek
Alternative 1															
Season of use	Year-long	Year-long	Year-long	Year-long	Year-long	Year-long	No grazing	Year-long	Year-long	Year-long	Year-long	Year-long	Year-long	Year-long	Year-long
Riparian projects	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
AUMs	3,652	6,046	2,386				253	4,443	5,761	570		3,386		797	519
Riparian MGs	5, 6, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 6, 7, 8, 11	11	5,6,8,11 14,15	11,15	5,6,8, 11,14	5,6,8, 11,14	5,6,8, 11	5,6,8, 11	5,6,8, 11,15	6,8, 11,15
Alternative 2															
Season of use	4/1 to 12/31	Year-long	Year-long	Year-long	Year-long	Year-long	No Grazing	6/15/ to 11/15	Year-long	7/1 to 11/1	7/1 to 11/1	4/1 to 11/30	4/1 to 11/30	6/1 to 11/30	4/1 to 12/31
Riparian projects	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
AUMs	3,652 (4,925)	6,046	2,386				231 (231)	4,056	5,761 (12726)	570 (590)		3,386 (3,820)		797 (927)	519 (912)
Riparian MGs	5, 6, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 6, 7, 8, 11	11	5,6,8,11 14,15	11,15	5,6,8, 11,14	5,6,8, 11,14	5,6,8, 11	5,6,8, 11	5,6,8, 11,15	6,8, 11,15
Alternative 3															
Season of use	12/1 to 5/15	4/01 to 11/30	6/01 to 7/31	6/01 to 7/31	6/01 to 7/31	6/01 to 7/31	No Grazing	6/1 to 11/30	Year-long	7/1 to 7/30	7/1 to 7/30	4/01 to 11/30	4/01 to 11/30	6/1 to 6/30 & 10/10 to 11/30	4/01 to 2/04
Riparian projects	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
AUMs	2,981 to 5,092	6,046 to 8,722	2,386				180 to 401	4,212 to 7,544	3,048 to 5,958	570 to 1,774		1,813 to 3,327		797 to 867h	797
Riparian MGs	5, 6, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 6, 7, 8, 11	11	5,6,8,11 14,15	11,15	5,6,8, 11,14	5,6,8, 11,14	5,6,8, 11	5,6,8, 11	5,6,8, 11,15	6,8, 11,15
Alternative 4															
Season of use	12/1 to 5/15	4/01 to 11/30	06/01 to 7/31	06/01 to 7/31	06/01 to 7/31	06/01 to 7/31	No grazing	06/01 to 11/30	Year-long	07/01 to 07/30	07/01 to 07.30	04/01 to 11/30	04/01 to 11/30	06/01 to 6/30 10/01 to 11/30	04/01 to 02/04
Riparian projects	No	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No	No	No
AUMs	2,981	6,046	2,386				180	4,212	3,048	570		1,813		797	515
Riparian MGs	5, 6, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 7, 8, 11	5, 6, 7, 8, 11	11	5,6,8,11 14,15	11,15	5,6,8, 11,14	5,6,8, 11,14	5,6,8, 11	5,6,8, 11	5,6,8, 11,15	6,8, 11,15

¹ The number in parentheses is the 20-year grazing use level identified in Table D-1 of the Jarbidge RMP (USDI 1987a).

All Alternatives prescribe continued grazing in most riparian areas; however, management guidelines (MGs) would be applied to all streams and riparian areas. For example, MG 6 would limit stream-bank alteration to less than 10 percent in key areas of streams known or suspected to support sensitive fish species. MGs 4, 5, 7, 8, and 11 also relate directly to improving riparian habitat. See Section 2.0 for a complete description of MGs and how they would be applied in each Alternative.

Common to all Alternatives, the existing riparian enclosure at the headwaters of Cedar Creek in the Cedar Creek Allotment would be expanded. Also, a water gap and drift fences would be constructed at Three Mile Crossing to exclude cattle from most of Cedar Creek in the Pigtail Butte Allotment. These projects would improve riparian and aquatic habitat conditions to at least fair condition on about 3.6 miles of Cedar Creek, which is currently in poor condition.

Bull and redband trout are highly dependent on aquatic and riparian habitat conditions, especially in low-gradient streams (Rosgen C channels), for successful spawning, rearing, and migration. Successful spawning and egg incubation requires clean gravels and cool water temperatures. Year-round rearing requires sufficient numbers of high-quality pools, backwater and off-channel areas, beaver ponds with complex cover, and appropriate water quality parameters.

Bruneau hotspring snails require specific temperature ranges in their thermal springs and seeps for successful reproduction and growth (Mladenka 1992). Spotted frogs need: 1) oxygenated hibernacula protected from freezing; 2) suitable breeding areas that contain constant-level, shallow, slack water for egg development; 3) a connection to deeper water that persists until tadpoles transform; 4) foraging areas rich in insects with vegetative protection and some open areas for basking; and 5) adequate riparian corridors to move between the hibernating, breeding, and foraging sites (Engle 2001).

Current riparian management is not meeting Standards 2 and 3. This situation, in turn, is not providing the aquatic habitat components for highly productive redband trout spawning and rearing and spotted frog production. The

proposed Adaptive Management using Management Guidelines 4, 5 and 6 would ensure management is making progress toward improving habitat for redband trout, Bruneau hotsprings snail and other aquatic species.

Impacts of Alternatives 1 and 2

Fencing streams to exclude or substantially limit livestock grazing is the most reliable means of improving aquatic habitat condition. Alternative 1 would include construction of fences to create riparian pastures and/or stop livestock from entering Clover Creek in the 71 Desert Allotment, Bruneau Canyon adjacent to the Bruneau Hill Allotment, and Timber and Rocky Canyon creeks in the North Fork Field Allotment. As mentioned in Section 4.9, Wetlands and Riparian Areas, fencing the riparian pasture on Clover Creek would result in immediate improvement in riparian health. As a result, aquatic habitat would be expected to improve from poor to fair condition. Aquatic habitat in Timber Canyon creeks and Cedar Creek in the Pigtail Butte allotment would also improve from poor to fair condition. The one-mile segment of the Bruneau River that is currently accessible by livestock from the Bruneau Hill Allotment would improve from good to excellent condition as a result of the proposed gap fence.

Other proposed changes in grazing management would also affect aquatic resources, although more slowly than the fencing projects previously mentioned. The potential effects of proposed management on the elements of aquatic habitat are discussed below, and a comparison of relative impacts is presented in Table 4.7.

Sediment

Proposed MGs, season of use, and grazing systems would improve riparian conditions. Employing MGs 5 and 6 in Alternative 1 would reduce current sediment loads; however, higher than natural levels of bedload and fine sediment would still be entering flowing waters in the study area, due mainly to stream-bank instability caused by livestock trampling.

Water Temperature

Existing information indicates high water temperatures in Clover, House, and Three creeks, due mainly to lack of adequate shading and excessive width/depth ratios caused by livestock grazing and water diversions. These temperature regimes would probably slowly improve

compared to existing conditions, but would not reach near-natural conditions until riparian vegetation reached PNC (potential natural community or excellent conditions).

Woody Debris

Employing MG 8 (restricting frequency of nipping on woody vegetation to 50 percent, which is comparable to 25 percent utilization) in Alternative 1 would reduce current use of woody riparian vegetation. Compared to the existing situation, proposed stocking levels, season of use, grazing systems, and MGs would provide for additional production and accumulation of woody debris. However, unless riparian pastures are rested for several years, woody vegetative conditions would improve very slowly.

Pool Habitat

Proposed grazing management would provide for better pool habitat in the long term; however, in the short term additional amounts of older vegetation would not be produced, and in-channel conditions needed to create pool habitat would not substantially change.

Width/Depth Ratio

Employing MGs 5 and 6 in Alternative 1 would reduce current sediment loads originating from

unstable stream banks. The reduction of in-stream deposition and the increase in stable streambanks would slowly improve width/depth ratio compared to the existing conditions.

Stream-bank Stability

Existing information identifies poor stream-bank conditions in some reaches of Clover, Rocky Canyon, Timber Canyon, China, Cedar, House, and Three creeks. Proposed changes in grazing management, particularly MGs 5 and 6, would slowly improve unstable stream-bank conditions.

Floodplain Connectivity

With proposed MGs, season of use, and grazing systems employed, floodplain connectivity would slowly improve but never reach natural conditions, mainly because of continued livestock grazing in riparian areas, even at a more limited level.

Riparian Habitat

Proposed grazing management, including implementation of MGs 5, 6, 7, 8, and 11, would result in substantial improvement in riparian habitat, as fully described in Section 4.9.

Table 4.7 - Relative Assessment of Impacts on Existing Aquatic Habitat

Habitat Indicators	Alternatives ²			
	Alt. 1	Alt. 2	Alt.3	Alt.4
Sediment	MP	MP	LP	MP
Water temperature	LP	LP	LP	LP
Large woody debris	LP	LP	LP	LP
Pool habitat	LP	LP	LP	LP
Width/depth ratio	MP	MP	LP	LP
Streambank stability	MP	MP	LP	MP
Riparian habitat	HP	HP	MP	MP
Floodplain connectivity	LP	LP	LP	LP

¹ Does not include Bruneau and Jarbidge Rivers.

² Relative impacts are shown as: HP = high positive; MP = moderate positive; LP = low positive.

Impacts on Rivers and Streams

The following is a discussion of the potential affect the proposed action would have on rivers and streams in the study area containing listed or sensitive aquatic species. Table 4.8 shows long-term changes in the aquatic habitat condition of streams with aquatic species in the study area by Alternative. Table 4.9 shows a relative assessment of impacts on listed and sensitive aquatic species by Alternative. All streams with management guidelines 5, 6, and 8 applied

would see a slow improvement over existing conditions. However, these improvements would have little effect on redband trout and spotted frog productivity.

Bruneau and Jarbidge Rivers

Gap fencing (71 Desert and Bruneau Hill allotments) and natural barriers would prevent livestock use in the Bruneau and Jarbidge river canyons, with riparian and aquatic habitat conditions improving on 4.6 miles of river from

good to excellent condition and the remaining 43.1 miles would be maintained in excellent condition. Any potential effects of livestock grazing in riverine and/or wetland areas occupied by bull and redband trout and the Bruneau hot springsnail would be eliminated in Alternative 1.

Clover Creek

Overall, a Clover Creek study (Mearns et al, IDFG, unpublished data) found factors limiting trout production were low stream flows, high water temperatures, high gravel embeddedness, poor width/depth ratios, excess fine sediments, bank instability, and scarce overhanging vegetation. Proposed grazing management would slowly improve stream conditions; however, continued livestock grazing within and outside riparian pastures would maintain aquatic habitat ratings in the short term, with 7.8, 5.9, and 5.7 miles of stream in good, fair, and poor condition, respectively.

Salmon Falls Creek

Salmon Falls Creek canyon is not within the allotment boundaries, and livestock grazing has a very limited influence on the aquatic habitat conditions. Continued livestock grazing in the watershed, along with effects of the dam and reservoir, would maintain the 16.0 miles of lower Salmon Falls Creek in fair aquatic habitat condition, mainly because of lack of spring flushing flows and varied flows from reservoir.

Rocky Canyon Creek

Isolating Rocky Canyon Creek from the remainder of the North Fork Field Allotment in Alternative 1 and resting the riparian area from livestock use would slowly improve 1.3 miles of stream from poor to fair condition and slowly improve redband trout and spotted frog production.

Timber Canyon Creek

Isolating Timber Canyon Creek from the remainder of the North Fork Field Allotment in Alternative 1 and resting the riparian area from livestock use would slowly improve 1.6 miles of stream from poor to fair condition and slowly improve redband trout production.

China Creek

Continued livestock grazing in the watershed would maintain the 0.2 and 0.7 miles of stream in excellent and poor condition, respectively, and maintain low redband trout and potential spotted frog production.

Cedar Creek

The water gap fence at Three Mile Crossing in the Pigtail Butte allotment would allow aquatic habitat to slowly improve over time. Continued livestock grazing in the watershed, along with the effects of the dam and reservoir, would maintain 1.1, 0.9, and 4.6 miles of stream in excellent, good, and fair condition, respectively. Gap fencing would improve 3.6 miles of stream in the Pigtail Butte Allotment from poor to fair condition. Redband trout production would remain the same in most stream reaches, but would improve over time in the 3.6 miles of Cedar Creek in the Pigtail Butte Allotment.

House Creek

Proposed MGs would result in slow improvement of riparian conditions; however, the proposed management would only maintain the 0.3 miles of stream in poor aquatic habitat condition and maintain existing redband trout production.

Three Creek

Continued livestock grazing at a reduced level in the riparian pasture would maintain the 0.6 and 0.5 miles of stream in excellent and poor condition, respectively, and maintain existing redband trout production.

Impacts of Alternative 3

The main difference between Alternative 3 and Alternative 1 is the greater number of livestock and AUMs (including TNR authorizations) in the 71 Desert, Antelope Springs, Bruneau Hill, and Cedar Creek allotments. The proposed grazing levels under this Alternative would be comparable to the historic range of use (Table 2.1, Section 2). The same MGs and range improvement projects identified for Alternative 1 would be implemented in Alternative 3, providing benefits to riparian and aquatic habitat. However, uplands would continue to receive impacts from trampling and compaction, similar to the existing situation. These impacts would continue to contribute in-stream sediment, although at a reduced rate because of the proposed MGs and projects.

Impacts of Alternative 4

In relation to impacts on aquatic habitat, the main difference between Alternative 4 and Alternatives 1-3 is that Alternative 4 would not include most of the fencing proposed in the other Alternatives (see Table 2.2, Section 2).

Therefore, improvements in aquatic habitat expected from fencing Clover Creek in the 71 Desert Allotment, Antelope Springs Creek in the Brackett Bench Allotment, Bruneau Canyon in the Bruneau Hill Allotment, and Timber Canyon and Rocky Canyon creek riparian areas in the North Fork Field Allotment would not be realized under this Alternative. Although the same MGs would be implemented under this Alternative as under Alternatives 1-3, the absence of fencing and continued livestock grazing in fore-mentioned riparian areas would allow only slight recovery of aquatic habitat conditions.

Because Alternative 4 would not gap fence those areas aligning the Bruneau and lower Jarbidge

ivers, livestock grazing in sections of these canyons would allow any existing impacts on rearing and migrating bull and/or redband trout to continue. Also, this Alternative would not eliminate any existing impacts on the Bruneau hot springsnail that inhabits a complex of hot springs and seeps along a five-mile reach of the Bruneau River and the lower third of Hot Creek. The impacts of Alternative 4 on riparian and aquatic conditions of the remaining streams (Salmon Falls, Rocky Canyon, Timber Canyon, China, Clover, Cedar, and House creeks) containing redband trout and/or spotted frogs would be similar to Alternative 1.

Table 4.8 - Long-term Habitat Condition Changes in Streams with Aquatic Species

Waterbody/Allotment	Aquatic Habitat Conditions ¹ (changes shown in bold type)		
	Existing Condition	Alternatives 1-3	Alternative 4
Jarbidge River ²			
71 Desert	4.5 G	4.5 E	4.5 G
Bruneau River ³			
71 Desert	43.1 E, 1.0 G	44.1 E	43.1 E, 1.0 G
Bruneau Hill			
Winter Camp			
Black Rock Pocket			
Clover Creek			
71 Desert	3.4 P	3.4 P	3.4 P
Flat Top	4.4 F	4.4 F	4.4 F
Winter Camp	7.8 G, 1.5 F, 1.3 P	7.8 G, 1.5 F, 1.3 P	7.8 G, 1.5 F, 1.3 P
Salmon Falls Creek ⁴			
Antelope Springs	7.8 F	7.8 F	7.8 F
Brackett Bench	8.2 F	8.2 F	8.2 F
Rocky Canyon Creek	1.3 P	1.3 F	1.3 P
China Creek	0.2 E, 0.7 F	0.2 E, 0.7 F	0.2 E, 0.7 F
Cedar Creek			
Cedar Creek	1.1E, 0.9G, 4.6P	1.1E, 0.9G, 4.6P	1.1E, 0.9G, 4.6P
Pigtail Butte	3.6 P	3.6 F	3.6 F
Timber Canyon Creek	1.6 P	1.6 F	1.6 P
House Creek	0.3 P	0.3 P	0.3 P
Three Creek	0.6 E, 0.5 P	0.6 E, 0.5 P	0.6 E, 0.5 P
Total condition of fish-bearing stream miles	45.0 E, 14.2 G, 22.6 F, 16.6 P	50.5 E, 8.7 G, 29.1 F, 10.1 P	45.0 E, 14.2 G, 26.2 F, 13.0 P

¹ Aquatic habitat condition was rated as excellent (E), good (G), fair (F), or poor (P) based on available information and interviews with BLM and IDFG fish biologists.

² The Jarbidge River is outside the boundary of any of the study allotments. It is mostly inaccessible to livestock; however, some livestock from the 71 Desert Allotment occasionally enter the steep canyon.

³ The Bruneau River is outside the allotment boundaries; however, approximately one mile is accessible from a trail descending into the canyon from the Bruneau Hill Allotment.

⁴ Salmon Falls Creek is outside the allotment boundaries and is only slightly affected by grazing on the nearby uplands.

Table 4.9 - Relative Impacts¹ on Listed and Sensitive Aquatic Species

Listed and Sensitive Species	Alternatives			
	Alt. 1	Alt. 2	Alt.3	Alt.4
Bull trout	MP	MP	MP	N
Redband trout	LP	LP	LP	LP
Bruneau Hot springs Snail	HP	HP	HP	N
Columbia spotted frog	LP	LP	LP	LP

¹ HP = high positive, MP = moderate positive, LP = Low positive, N = No effect

4.11 Terrestrial Wildlife

This section will describe the livestock grazing management and the proposed permitted seasons of use under each of the four Alternatives as they may affect terrestrial wildlife. All four Alternatives contain the requirement to initiate grazing recommendations identified in the Standards and Guidelines Assessment for all allotments so these do not vary between Alternatives. Adherence to the Standard and Guidelines will directly improve wildlife habitat by increasing vegetation cover, vegetation structural diversity, forage productivity, and plant species composition—all of which are important components of wildlife habitat. Also, specific wildlife habitat management objectives for the JFO area and the 18 grazing allotments are addressed in Appendix A.

Generally, the difference between livestock and wildlife is that livestock are confined to allotment boundaries with specific management defined by grazing plans. Conversely, wildlife are free roaming, many with extensive distributional ranges, and are not necessarily confined to allotment boundaries. Habitat type and quality dictates their distribution. Therefore the following discussion is focused on the four different grazing Alternatives rather than the 18 allotments. Alternative 1, more so than the other Alternatives, seeks to improve the management of livestock grazing in the 18 allotments through a flexible, aggressive system; and as such, it would have the greatest chance of improving wildlife habitat as with any of the other Alternatives. In fact, Alternative 3 is basically the no-action Alternative meaning that wildlife habitat improvement would be *status quo*.

The range improvement projects identified for each grazing allotment are outlined in Table 2.2, Section 2. These projects apply to Alternatives 1

through 3 with the exception of two projects identified on the table that also apply to Alternative 4. Within the vegetative allocations proposed in Alternatives 1, 2 and 3, it was the determination of the BLM's Interdisciplinary team that the listed projects were necessary to meet the requirements of the Standards and Guides Assessment and also meet the specific management objectives identified in the 1987 RMP. The two projects that also apply to Alternative 4 are necessary to meet management objectives for that Alternative as well as for Alternatives 1, 2 and 3. The impacts of these proposed projects on wildlife should be minimal because they are site specific, they would be implemented according to BLM standards, and habitat rehabilitation would occur after implementation.

The proposed trough locations include both moving troughs and abandoning the current location and establishing additional trough in crested wheatgrass seedings. This proposal would move water into areas of lower quality habitat like crested wheatgrass seedings and away from higher quality habitat like riparian areas and sagebrush plant communities. Locating troughs in seedings would improve grazing management flexibility by being a closer to the higher forage production plant communities (crested wheatgrass) and avoid congregation of cattle in riparian areas where they loaf which lowers weight gain. Livestock congregating around the relocated water troughs in the 71 Desert, Camas Slough and Crawfish Allotments would result in localized trampling in areas previously not effected which may result allow noxious weeds and other less palatable forage to become established This may reduce bird and small mammal populations in the local vicinity. However, the old abandoned location would be allowed to recover, providing improved habitat adjacent to other high quality habitat. Where additional waters are established

in crested wheatgrass stands in the Winter Camp and 71 Desert Allotments, impacts to Clover Creek. Additionally, providing water in troughs from May through October would provide water for wildlife even when livestock are not present in specific pastures as long as the water is not turned off when cattle leave.

The proposed fencing projects that close riparian areas to livestock grazing in the 71 Desert, Brackett Bench, Crawfish, Cedar Creek, North Fork Field and Pigtail Butte Allotment would allow for improvement in habitat qualities that these areas provide. It would benefit most species of wildlife by increasing available forage, cover and water quality. The fencing project in the Blackrock Pocket allotment would allow deferment on approximately 3000 acres. The purpose of this deferment is to improve ecological condition in this area, which in turn would improve ecological condition. The fences would inhibit movement of wildlife, especially big game species. However, the spacing of wire and the use of barbless wire for the bottom wire would mitigate the effect to wildlife movement ecological condition in this area which in turn would improve ecological condition. The fences would inhibit movement of wildlife, especially big game species. However, the spacing of wire and the use of barbless wire for the bottom wire would mitigate the effect to wildlife movement.

4.11.1 Impacts Common to All Alternatives

The impacts previously discussed are applicable to the 18 grazing allotments, regardless of which Alternative is selected. The Management Guidelines 1, 2, 3, 8, 9, 10, 12, 13, and 14 that apply to the wildlife resource when implemented, seek to improve the wildlife habitat condition and ecological state over the long-term. The implementation of Guidelines 4 and 5 for all streams should also improve habitat for many species over the long-term.

Documenting change especially over the short-term (10 year lease period) would be difficult for several reasons: First, there is insufficient site specific, quantitative baseline data on wildlife habitat which to measure against. Secondly, annual weather patterns are too variable. Thirdly, the time frame is too short in which to measure changes in these semi-arid environments. Rangeland improvement projects

that are well planned, designed, judiciously implemented, and monitored with multiple use objectives and goals would have the greatest impact on improving habitat.

Progress would be made toward meeting the Rangeland Standards under the four Alternatives proposed. Idaho Rangeland Standards 2, 4, and 8 relate directly to maintaining or promoting native upland and aquatic plant communities, diverse native wildlife habitats, and habitats suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. The primary goal of all the Standards is to maintain the integrity of the

ecosystem by maintaining the basic ecological processes, structures, and functions. Impacts to terrestrial wildlife habitats and species by implementing any of the four Alternatives, including the project improvements in Alternative 1, 2, 3, and applying all the management guideline, except Guideline 15, would maintain the current habitat conditions (over the 10 year lease period). Wildlife species habitat requirements for cover, food, water, space and solitude (free from disturbance or stress during winter, fawning periods, nesting, and breeding seasons) are only partially addressed by the Alternatives and management plans. A long-term perspective is needed for wildlife habitat improvement, which is beyond the scope of this EA, but implementation of this Alternative would move toward improvement of wildlife habitat.

Meeting the Idaho Standards for Rangelands (1997) as they relate to wildlife varies by standard, allotment and occurrence of resource within allotment. Indicators for Standard 2, Riparian/Wetland areas, currently are only met in the Camas Slough and Flat Top Allotments. As part of Alternatives 1, 2, and 3, the future project developments of fencing riparian/wetlands in the appropriate allotments would help to improve habitat for a host of wildlife species such as frogs, toads, shore birds and other species. The benefits to wildlife in riparian pastures would depend on how the pastures are managed and grazed. Indicators for Standard 4, Native Plant Communities, are being partially met, except for a low composition of forbs in 7 allotments, are not being met in 10 allotments, and one allotment (Brackett Bench) is not being met at lower elevation but met at higher elevation

(Table 3.2, Section 3). The density of sagebrush and the depauperate understory, especially the lack of forbs, is a concern in all allotments. The lack of winter fat in some of the xeric portions of the allotments is also a concern. Indicators for Standard 5, Seedings, are difficult to evaluate from a wildlife perspective with the current information available.

Seedings that have some vertical structure provided by sagebrush or other shrubs provide habitat for shrub-nesting birds as well as grass nesting birds. McAdoo (1989) found species richness and equitability of grass nesting and shrub-nesting birds were highest in sagebrush invaded seedings. As successional colonization of sagebrush occurred, shrub-nesting bird species were restored and grass-nesting species remained. Bird species diversity increased as complexity of the plant community increased. Some of the grass-nesting bird species include horned lark, western meadowlark, lark sparrow, and vespers sparrow. Shrub-nesting birds include sage sparrow, sage thrasher, black-throated sparrow, and Brewer's sparrow. Non-native grassland seedings should be encouraged—in the short-term—through proper grazing management, to revert back to native sagebrush-steppe over the long term.

Both cattle and sheep grazing are permitted in four allotments (Cedar Creek, Antelope Springs, Pigtail Butte, and Coonskin AMP). Sheep grazing in both native vegetation and in seeded areas may decrease forb cover. This would hold true for both upland and riparian/wetland areas because sheep have a high preference for forbs. Sheep also distribute themselves better across a pasture since steeper terrain does not restrict them like it does cattle. Cattle prefer slopes <30 percent. The allotments that have both cattle and sheep grazing may be subject to adverse impacts on both food and cover requirements important to native wildlife if utilization is not carefully monitored and livestock are not moved when this level is reached.

4.11.2 Cumulative Effects

The 18 grazing allotments occur as only a small percentage of the total landscape surrounding the JFO area administered rangelands. Since highly-mobile wildlife are not confined within respect administrative boundaries it is essential for BLM, Idaho Division of Fish and Game, US Forest Service and private land owners to

cooperate closely to ensure that wildlife habitat is available to support viable, healthy wildlife populations. In the short-term (10-15 years), proactive grazing management, as outlined in Alternative 1, and the associated Management Guidelines would focus on rangeland improvement which directly would enhance wildlife habitat. However, a long-term (> 20 years) strategy is also needed to ensure habitat sustainability. Cumulative potential impacts to wildlife habitat, in addition to livestock grazing, include many things such as ORV use, hunting, human encroachment, and wildfire. Long-term management strategies are needed to effectively manage land use specifically on the grazing allotments and in general for the surrounding landscape to ensure quality wildlife habitat.

The cumulative effects of dramatic, historical landscape type changes have not been accounted for. The main changes were historic overgrazing by livestock, invasion of rangelands by exotics, especially cheatgrass, impacts of increased frequency of fires and large scale fires that eliminated much of the sagebrush (over 550,000 acres have burned or re-burned over the last 30 years, large vegetation manipulation projects where sagebrush is removed and the area is seeded to crested wheatgrass) and associated fences and water developments. These changes have had negative effects on wildlife species, populations, and their habitats in the area. Habitat fragmentation, loss of linkage habitats, and major alterations of habitats caused by all these interacting factors have had impacts on sagebrush steppe associated wildlife species. Conversely, sagebrush has re-established in many of the vegetation manipulation projects and fire rehabilitated areas that have not re-burned and now provide habitat for wildlife.

4.12 Special Status Wildlife Species

Impacts of the four Alternatives on special status wildlife species would be similar to those stated in the previous section on Terrestrial Wildlife (Section 4.10), except that the impacts would apply only in those allotments or adjacent areas where appropriate habitat exists for the special status species identified. Management guidelines (MGs) 1, 2, 3, 4, 5, 8, 9, 10, 12, and 14 address livestock utilization levels on herbaceous vegetation in both upland and riparian habitats, on shrubs in riparian woody

plant areas, and in mountain shrub and aspen communities.

As indicated in the previous section, implementing the MGs would increase vegetation cover, productivity, structural diversity, and composition complexity. These changes would not immediately meet all of the Idaho Standards for Rangeland Health (S&Gs), but would make progress in the right direction for special status species populations and their habitats. MG 12 (concerning no permitted livestock grazing on crucial winter ranges from December 1 through March 15 and on lambing areas from May 1 through June 15) would provide benefits to California bighorn sheep in the Bruneau/Jarbridge River ACEC.

The differences between the four Alternatives in regard to their effects on special status terrestrial wildlife would be relatively minor. Alternatives 1, 2, and 4 would reduce the allowable level of grazing below the total authorized (permitted plus TNR use) under the historic range of use (Table 2.2), and all Alternatives would implement all of the recommended MGs, which would be a positive effect. Alternative 1 would provide for increased flexibility in season of use, which could benefit wildlife habitat. Alternative 2 would specify more restrictive seasons of use, which could benefit perennial upland vegetation, but would reduce flexibility and could result in using riparian areas during the hot season. Alternative 3 would allow a level of grazing use comparable to the historic range of use. This would be similar to the existing situation, except that all MGs would be implemented. Alternative 4 would have the lowest level of grazing use, but would only include two of the 19 projects proposed in the other Alternatives.

The projects included in Alternatives 1-3 (and the two projects in Alternative 4) would result in positive effects for special status species. Fencing of riparian areas to exclude grazing or to create riparian pastures would be positive, particularly if the areas were allowed to achieve a healthy functioning condition. The proposed projects would facilitate better management of areas that provide important habitat for many species. Furthermore, the proposed projects would be necessary to implement the recommended MGs, especially in riparian areas.

Implementation of MG 1, 3, 9, 11, 15 and 16 would result in beneficial effects on sage grouse

and other sagebrush obligate species. The overall allocation of 27 to 35 percent of the forage production and all production of shrubs and forbs should provide adequate cover for sage grouse. Avoiding salt (or other approved supplements) locations in or near sagebrush communities where there are large enough areas on non-sagebrush plant communities, should also preserve adequate cover for nesting. MG 1 and 3 (utilization rate of 40 percent in key areas for native vegetation communities) would not ensure an average of 7-inch stubble height at the end of the nesting season for sage grouse nesting cover, as recommended by Connelly et al (2000) over the entire area. However, considering the uneven distribution of grazing use within pastures, turning water troughs off that are near lek in pastures with scheduled use and pastures scheduled for rest should provide an average of 7 inch stubble heights in large areas of pastures. The amount of area rested would be adjusted in the annual grazing plan based on monitoring done in the previous year. MG 9 would protect sage brush cover by maintaining its health and structural values. MG 11 provides for rest, which under the adaptive management, can be implemented to provide nesting cover by scheduling rest on a rotating basis during the nesting season. Furthermore, in comparison to the existing situation, implementation of all of the MGs would result in substantially improved habitat conditions for all of the special status species.

Threatened, sensitive, and "watch" list species and their habitats would generally realize positive effects from all of the Alternatives, as previously discussed. The current habitat in much of the sagebrush-steppe and bunchgrass communities (Section 3.3) and in wetlands and riparian areas (Section 3.9) would be expected to improve.

Threatened, sensitive, and "watch" list species and their habitats would generally realize positive effects from all of the Alternatives, as previously discussed. The current habitat in much of the sagebrush-steppe and bunchgrass communities (Section 3.3) and in wetlands and riparian areas (Section 3.9) would be expected to improve. Impacts on all special status species in the study area are summarized in Table 4.10.

The expected habitat changes would not affect the bald eagle, which does not depend on habitat within the study area. No change to minimal

impact in the short term would be realized by the prairie falcon, peregrine falcon, ferruginous hawk, western burrowing owl, long-billed curlew, spotted bat, Townsend's big-eared bat, Yuma myotis, western pipestrille, western small-footed myotis.

Effects on the leopard frog, western toad, Woodhouse toad, white-faced ibis, Wilson's phalarope, northern goshawk, Lewis' woodpecker, red-naped sapsucker, Mojave black-collared lizard, western ground snake, calliope hummingbird, Swainson's hawk, Virginia's warbler, Cassin's finch, Cordilleran flycatcher, black-throated sparrow, Brewer's blackbird, loggerhead shrike, pinyon jay, kit fox would be unknown due to lack of site-specific information. However, no adverse impacts would be expected.

Effects on sage grouse, sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, willow flycatcher, short-eared owl, Columbian sharp-tailed grouse, mountain quail, grasshopper sparrow, and California bighorn sheep would be slightly to moderately positive in relation to the existing situation, as previously discussed.

4.13 Cultural Resources

Under all of the Alternatives, protection and management of heritage resources would continue under existing federal statutes and regulations and BLM policies of review, consultation, planning and mitigation. Proposed changes in stocking rates, flexible grazing seasons, and allotment utilization have the potential to reduce adverse impacts on cultural resources as long as BLM range management guidelines and historic preservation policies are followed and archaeologically sensitive areas are protected by appropriate measures.

AUM increases and extended grazing seasons may also have a negative impact on cultural resources. Livestock trailing and concentrations during the wetter seasons (late winter and early spring) and to and around water sources during the drier seasons would negatively impact cultural resources through soil disturbance, compaction, and increased erosion. The number of AUMs would remain the same under all four Alternatives on seven of the eighteen allotments (Table 2.1, Section 2). AUM increases are proposed for the remaining eleven allotments

under Alternative 1, and for ten of the eleven under Alternative 2. Alternative 3 would not increase AUMs but has the potential, under TNR, to result in the greatest amount of livestock use of any of the Alternatives. Alternative 4 (current AUMs with no TNR) would generally result in the lowest levels of livestock use.

Alternative 1 would expand the season of use on all but two allotments. Alternative 2 would expand the season of use on fourteen and reduce it on three. Alternatives 3 and 4 would leave existing seasons of use unchanged.

Specific measures to protect cultural resources would be incorporated into the existing and amended grazing and cultural resource assessment and management plans for each allotment. Implementation of the 1987 RMP and grazing management guidelines applicable to all Alternatives and project plans for ten of the allotments (Table 2.1, Section 2) would greatly enhance cultural resource conservation for sites and site complexes (Table 3.18, Section 3). Projects, including installation or relocation of water sources, installation or extension of water pipes, construction of pasture and exclusionary fencing would distribute livestock with discretion and more evenly on the landscape and, importantly, prevent or control stock concentration around natural springs, streams and riparian areas where there is often a high incidence of cultural resources.

Five allotments (71 Desert, Bruneau Hill, Flat Top, Winter Camp, Blackrock Pocket) have additional management requirements under WSA or ACEC designation that further protect cultural resources (Table 3.18).

Prior to the construction of any proposed fence, trough relocation, or pipeline extension, a cultural resource inventory would be conducted in accordance with applicable laws and regulations to ensure that no significant cultural resources area inadvertently impacted.

4.14 Paleontological Resources

Although only a few paleontological sites are formally recorded on or immediately near the seventeen allotments treated here, it is anticipated that additional Tertiary and Quaternary fossils may be found in some geologic settings on the allotments (Akersten and Thompson 1992; Bonnicksen, et al. 1994a, 1994b; Jenks, et al. 1998). Many paleontological localities are found by serendipity or in conjunction with inventories focused on certain landscapes, geologic environments or other resources. Paleontological resources would be protected by implementation of existing heritage resource management policies as outlined for all Alternatives addressed in this EA.

4.15 Special Designation Areas

Only four allotments (71 Desert, Bruneau Hill, Flat Top, and Winter Camp) analyzed in this EA include any portion of a special designation area. Grazing management changes in the other 14 allotments would not affect special designation areas and therefore would not be addressed in this section.

Wilderness Study Area Impacts

None of the four Alternatives analyzed in this EA would directly affect the portions of WSAs recommended to the Congress as suitable for designation as wilderness. These WSA portions are located within the large, rugged canyons that are adjacent to, but outside the boundaries of, the grazing allotments. Most of the outstanding wilderness values (naturalness, solitude, primitive recreation opportunities, and supplemental values such as bighorn sheep habitat) are concentrated in these canyons, which are inaccessible to livestock. Construction of the proposed Roberson Trail Gap Fence would have indirect effects on a portion of the Bruneau River-Sheep Creek WSA recommended as suitable. These indirect effects are discussed in the following subsection entitled WSA Impacts of Proposed Projects.

In addition to the rugged canyons, relatively large plateau areas adjacent to the canyons are also included within the WSAs. Although these plateau areas were recommended to the Congress as non-suitable for wilderness designation, they are currently protected by the provisions of section 603(c) of FLPMA, which states:

“During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness....”

BLM's Manual Handbook H-8550-1, Interim Management Policy (IMP) and Guidelines for Lands under Wilderness Review, provides additional guidance regarding the required management of WSAs pending their designation or release by Congress. The IMP, which applies to both suitable and non-suitable WSAs, provides that domestic livestock grazing on WSA lands may continue during the interim period in the same manner and degree as was occurring on October 21, 1976, when FLPMA was passed. Furthermore, changes in grazing may be allowed in livestock number, kind, or season of use if, after preparation of an EA, the effects are found to be negligible.

Four of the 18 allotments analyzed in this EA include plateau portions of the WSAs. These allotments, with their WSA acreages in parentheses, are 71 Desert (14,160), Bruneau Hill (6,818), Flat Top (594), and Winter Camp (3,094). In the following subsections, the WSA impacts of changing grazing management in these allotments are addressed for each of the four Alternatives.

WSA Impacts of Alternative 1

Livestock stocking rates under Alternative 1 (the Proposed Action) would remain the same in WSAs as presently allowed by the existing permitted use. That is, AUMs of permitted use would be allowed to increase in pastures that do not include WSA lands, but would be maintained at the same level in pastures that do include WSA lands. Furthermore, no temporary nonrenewable (TNR) grazing use would be authorized. Provided that actual grazing use would be managed consistent with the allocation of forage in each pasture, the actual grazing use in the WSAs would be less than the historic level, and the Proposed Action would be clearly in compliance with the IMP. The proposed management guidelines (Appendix A) would reduce forage utilization in localized areas, and would enhance the natural character of those

areas. Some supplemental values, such as the presence of bighorn sheep, could also be enhanced if the management guidelines reduce social interaction conflicts between the bighorns and domestic livestock.

WSA Impacts of Alternative 2

The levels of permitted grazing use under Alternative 2 would be the same as for the Proposed Action; however, the allowable season of use would be adjusted in the 71 Desert and Winter Camp allotments from yearlong to the period of April 1 to December 31. This change in season of use would reduce livestock grazing during the critical growing period for native vegetation, and also reduce social interaction conflicts between livestock and bighorn sheep. To the extent this change benefits the native vegetation and bighorn sheep populations, the related WSAs would be enhanced. The proposed management guidelines would have the same effect as under Alternative 1.

WSA Impacts of Alternative 3

Permitted grazing use under Alternative 3 would remain unchanged. However, TNR could be authorized up to the maximum levels granted during the last several years. It is proposed under this Alternative to authorize the same level of TNR annually. Maximum allowable TNR would increase total grazing use above present permitted use by the following percentages: 71 percent in the 71 Desert Allotment, 55 percent in the Bruneau Hill Allotment, 83 percent in the Flat Top Allotment, and 22 percent in the Winter Camp Allotment.

In the 71 Desert Allotment, the season of use would be changed from yearlong to December 1 to May 15, concentrating grazing during the critical growing period for native vegetation and increasing livestock numbers during the bighorn sheep lambing season. These changes would have the potential to adversely affect wilderness values; however, they would be at least partially mitigated by application of the management guidelines, which would be the same as those for the Proposed Action.

The total authorized use (permitted use plus TNR) under Alternative 3 would be substantially greater than the existing permitted use; however, allowable TNR use would be within the historic range and could theoretically be adjusted if declining vegetative conditions or unnecessary or undue degradation were observed. Furthermore,

application of the proposed management guidelines would prevent excessive utilization. If these safeguards were implemented effectively, any adverse effects on wilderness values would be negligible.

WSA Impacts of Alternative 4

Permitted grazing use under Alternative 4 would remain unchanged, and no TNR would be authorized. This level of grazing use would be substantially less than the maximum use (permitted use plus TNR) authorized within the last several years. Similar to Alternative 3, the season of use would be changed from yearlong to December 1 to May 15. The lower stocking rate and implementation of the management guidelines would mitigate the adverse impacts of this change in season of use. Overall, this Alternative would be expected to maintain or enhance the wilderness values.

WSA Impacts of Proposed Projects

All proposed projects are listed in Table 2.2, Section 2. The projects identified for the 71 Desert Allotment and the Winter Camp Allotment would not be located within a WSA, but they would be expected to have indirect beneficial effects on wilderness values by redistributing grazing and protecting WSA lands from excessive grazing use. The proposal to move the trough in the 71 Desert Allotment could reduce the conflicts between livestock and bighorn sheep. To the extent that natural vegetation and bighorn sheep populations are benefited, the proposed projects would enhance wilderness values.

The Roberson Trail Gap Fence would be the only proposed project located within a WSA. It would be located in section 12, township 9 south, range 12 east, as shown on Figure 2.1. Although most of the Bruneau River Canyon is inaccessible to livestock because of its steep walls, the Roberson Trail allows some livestock to stray into the bottom of the canyon. The purpose of the proposed gap fence would be to prevent livestock from using this route, while maintaining access into the canyon for float-boaters, hikers, and other recreationists.

As indicated in Table 2.2, Section 2, the proposed Roberson Trail Gap Fence would be 0.2 mile of 4-strand barbwire, buck and pole, or other type suitable for construction in the WSA. Ground disturbance would be negligible, and vehicular traffic would be confined to existing

trails. No mechanical clearing of the fence line would be permitted. The fence would include a convenient gate for visitors using the Roberson Trail. The ends of the fence would tie in to the Bruneau Canyon rim so as to prevent livestock from going down into the Canyon.

This fence would eliminate historic livestock grazing and trampling along approximately one mile of the Bruneau River. Other options were considered, such as a shorter fence further down the trail, but were judged to be ineffective for preventing livestock access. The project as proposed would be in conformance with all IMP requirements because it would enhance wilderness values within the Bruneau River Canyon by eliminating livestock impacts adjacent to the River. It would be substantially unnoticeable from above the canyon rim, and would not be seen at all from the River. It would not require motorized access if the WSA were designated as wilderness, and could even be removed without leaving an impact, if that became desirable in the future.

Areas of Critical Environmental Concern

The portion of the Bruneau/Jarbridge River ACEC comprised of the rugged, deep canyons contains a concentration of the bighorn sheep habitat, cultural resources, and geologic, scenic, and natural features for which the ACEC was designated. This portion of the ACEC is located outside the allotment boundaries and would not be affected by any of the four Alternatives. However, the strip of plateau one-half to one mile wide bordering the canyons is located partially within five of the allotments (71 Desert, Blackrock Pocket, Bruneau Hill, Flat Top, and Winter Camp), and would be affected by the changes in grazing management. This affected land includes approximately 20,847 acres (about 25 percent) of the 84,111 total acres in the ACEC.

Because the ACEC and WSA designations protect some of the same values and cover some of the same areas, the anticipated impacts would be generally similar in each of the designations (see Wilderness Study Area Impacts, previously discussed). Stocking rates under the Proposed Action would remain constant in the pastures including WSA lands, and would likewise remain constant in the pastures including ACEC lands. The impacts on the WSA values of naturalness and supplemental values such as bighorn sheep habitat would be essentially the

same as the impacts on the ACEC values of bighorn sheep habitat and other natural features.

One technical difference in analyzing an ACEC versus a WSA is that the impacts on a WSA are considered in terms of the non-impairment criteria of the IMP, and impacts on the ACEC are considered in terms of the special management requirements of the Jarbridge RMP. A total of ten special management requirements for the Bruneau/Jarbridge River ACEC are listed on pages II-70 and II-71 of the Jarbridge RMP ROD (USDI 1987a). Of these ten requirements, the ones most relevant to changes in livestock management are 1, 8, and 10. These three requirements provide that management priority for the canyons is for bighorns and other wildlife, scenic quality would not be impaired, and special status plant species would be given priority over livestock and recreation use.

All four Alternatives (including stocking rates, season of use, management guidelines, and proposed projects) would be compatible with the ACEC special management requirements. In comparison to existing grazing management, the future livestock grazing under any of the Alternatives would not adversely affect the ACEC. However, some elements of the proposed action and Alternatives would be more beneficial than others and would specifically improve protection and management of the values that the ACEC was designated to protect. These beneficial elements include reducing livestock actual use, eliminating livestock grazing during the critical spring growing period and lambing season, limiting livestock utilization, moving a water trough away from bighorn sheep habitat, and fencing off livestock access to canyons that provide bighorn sheep habitat.

Wild and Scenic Rivers

The segments of the Bruneau and Jarbridge rivers recommended as suitable for Wild Scenic Rivers (WSR) designation are located in the steep canyons, outside the boundaries of the 18 allotments. None of the proposed changes in stocking levels or utilization would affect these river segments. However, the proposed Roberson Trail Gap Fence in the Bruneau Hill Allotment (included in Alternatives 1, 2, and 3) could have a slightly beneficial effect on the scenic, recreational, fishery, and wildlife values associated with the potential WSR designation. This project would help prevent livestock from

entering the canyon, thereby enhancing the natural conditions adjacent to a short stretch of the Bruneau River.

National Conservation Area

The proposed changes in grazing management under all Alternatives analyzed in this EA would be compatible with the purposes for which the Snake River Birds of Prey National Conservation Area (NCA) was established. Therefore, the livestock grazing program in that portion of the Bruneau Hill Allotment within the NCA would continue to meet the requirements of the NCA Act.

Saylor Creek Range

The livestock grazing permitted under each of the Alternatives analyzed in this EA would be in compliance with Public Land Order 4902, which authorizes the Air Force use of the Saylor Creek Air Force Range. No grazing would be permitted within the fenced exclusive use area, and the permitted grazing use would be conducted so as not to interfere with the military use of the withdrawn lands.

4.16 Recreation and Visual Resources

All of the four Alternatives would continue to allow public access and recreational activities similar to what presently exist within the 18 allotments. Low levels of dispersed activities such as OHV use, horseback riding, hiking, hunting, rock hounding, primitive camping, nature viewing, and photography would be expected to continue as before. The adjustments in grazing levels under each Alternative would have a proportionate and relatively minor direct aesthetic impact on recreational experiences by changing the prevalence of cow manure, the degree of surface disturbance by livestock trampling, and the amount of vegetation remaining after the grazing treatments.

Implementation of the proposed Management Guidelines would likewise directly affect recreational experiences by changing factors like those previously mentioned. The management guidelines would generally have a positive affect, by limiting the percent of livestock grazing utilization in many of the areas that are most appealing to recreationists, such as areas of native and riparian vegetation.

The range improvement projects proposed in Alternatives 1, 2, and 3 would further reduce or eliminate livestock grazing in native or riparian vegetation areas. The reduction or removal of grazing from these areas would primarily benefit activities such as camping, nature viewing, hiking, and hunting. No measurable impacts would be expected on OHV use or rock hounding, because these activities are not as dependent on aesthetics. The proposed fences would pose a negligible physical restriction on OHV use. If the livestock management changes result in larger game populations, hunting of those species could be indirectly enhanced.

Float boating on the Bruneau River could be slightly enhanced by the proposed Roberson Trail Gap Fence, which would restrict livestock access into a localized area of the Bruneau Canyon. The impact would be limited because few livestock presently gain access to the steep canyon areas where floating occurs.

All four Alternatives would be consistent with the Visual Resource Management (VRM) system. In general, visual resources would be enhanced to the degree that percent of bare ground is reduced and vegetation condition is improved. Each proposed project would be designed to comply with the requirements of the VRM classes in which it would be located. Although some projects would be noticeable when viewed from the foreground for the first year or two, any strong contrasts would quickly fade.

Several of the proposed projects involve fence construction to protect riparian and other native vegetation. The short-term results would be to add unnatural contrasts to the visual environment by constructing the fence. However, in the long term, these impacts would be out-weighted by the more natural appearance of the protected vegetation.

Special care would need to be taken in constructing the Roberson Trail Gap Fence. Since this fence would be within a VRM Class I area, it would need to blend in with the natural surroundings. It would also be within a Wilderness Study Area (WSA), and would have to comply with BLM's Interim Management Policy for lands under wilderness review, as discussed in Section 4.15.

4.17 Socio-Economics

With enactment of NEPA in 1970, the initial emphasis of EA and EIS analysis was on biological, physical, and cultural resources; socio-economic concerns were introduced to the NEPA process in 1973. There are no Federal minimum standards or requirements for socio-economic conditions. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs Federal agencies to identify disproportionate impacts to low-income or minority populations, and is included as an aspect of socio-economic analysis.

This section identifies potential impacts on the population, housing, social conditions, employment, and regional economy that might result from the implementation of each Alternative. Also evaluated are environmental justice concerns to include disproportionate impacts to low income or minority populations. Impacts to socio-economic conditions are defined in terms of context, intensity, duration, and timing. Direct, indirect, and cumulative effects are discussed for each Alternative. The following impact thresholds have been defined for analyzing impacts to socio-economic conditions:

- Negligible: No changes would occur or changes to socio-economic indicators (population, employment/unemployment rate, per capita income, property values; poverty level, crime rates, characteristics, or affect the rural character in the study area) would be below or at the level of statistical error (about 3 percent), and if detected, would have effects that would be considered slight and short-term.
- Minor: Change socio-economic indicators between 4 and 10 percent.
- Moderate: Change socio-economic indicators by 10 to 20 percent.
- Major: Change socio-economic indicators by more than 20 percent.

The Region of Influence for impacts to socio-economics is the two-county area of Owyhee and Twin Falls, Idaho (see Section 3.17, Section 3).

Rimbey, *et al.* (2003) provides information about the potential impacts that could be realized by the Alternatives described in this project. The following excerpts describe that work and perceived results of changes to public land grazing management.

"A socio-economic study of Owyhee County was completed in 1998-1999 (Rimbey, *et al.* 1999; Harp and Rimbey 1999; Darden, *et al.* 1999), and information derived in that analysis was used in the Owyhee Resource Area Draft Resource Management Plan (ORMP). The ranch-level analysis of the earlier study answered many questions about the economic structure of Owyhee County ranches, potential short-run adjustments resulting from changing public land forage allocations, and linkages to rural communities and the regional economy.

Ranchers who were surveyed in the prior study provided information on adjustments they would make if forage allocations on Bureau of Land Management (BLM) rangelands were reduced. They indicated that their planning horizon for these adjustments was short-term in nature and that they would do everything they could to maintain their existing herd. Depending upon when the reductions occurred during the year, the ranchers identified Alternatives for maintaining herd size and remaining in business: purchase (or not sell) additional hay (to replace forage in winter, early spring or late fall), and look for private pasture and rangeland leases (summer forage). The last Alternative mentioned by ranchers was the reduction in the number of cattle they would run on their ranches. This was primarily due to leveraged ownership of Owyhee County ranches. Most ranches cannot operate without loans from financial institutions for variable expenses. In addition, the cyclic nature of cattle prices implies ties to financial institutions for equipment and land loans."

The Rimbey *et al* study defined:

“..... the economic situation, typical resource base, production rates and practices for two model ranches in Owyhee County, Idaho. These models were built to evaluate how optimal production strategies would change as permitted grazing use on public lands changed. The specific ranches modeled included a ranch in the Marsing area (538 AUMs) and a larger ranch in the Bruneau area (735 AUMs). Each representative ranch had different amounts and types of resources available for grazing, and different options for replacing public land forage. Substitute forages and strategies considered to be available as BLM allotment grazing capacity was reduced included leasing outside private forage, converting native meadow hayland to irrigated pasture, extending the hay feeding period, purchasing additional hay and reducing the size of the cow herd.”

Model results for a medium sized Owyhee County ranch (Marsing Model [Rimbey, et al. 2003]) indicate that BLM forage represents approximately 47 percent of the total ranch forage base. Assuming some off-ranch income, and frugal economic behavior, the model ranch was always capable of meeting cash flow requirements, until a point where all BLM lands were removed from the forage base. Ranch revenue declined as BLM grazing was reduced. The modeled economic impact of a 25 percent reduction in BLM grazing equated to a \$5,563 reduction in revenue. This is equal to a loss of \$7.42 per BLM AUM removed. As the BLM AUMs are reduced by 50 percent and 100 percent, the loss in terms of dollars per BLM AUM equated to \$7.67 and \$11.73, respectively.

Model results from a larger Owyhee County ranch (Bruneau Model [Rimbey, et al. 2003]), assumed BLM lands accounted for approximately 56 percent of the ranch forage base. It was also assumed that this ranch needed a longer grazing season for the increased herd size. As BLM grazing declined, revenue also declined. The modeled economic impact of a 25 percent reduction in BLM grazing, equated to a \$15,624 reduction in revenue from the estimated net income of \$67,881. This is equal to a \$12.50 loss per BLM AUM. A 100 percent reduction in BLM grazing drew the modeled revenue total down to only \$3,480 (loss of \$12.88/BLM

AUM). Under this second model, short-term borrowing to pay for operating expenses did not occur until total withdrawal of BLM grazing from the forage base.

The following analysis of Alternatives considers the results of the Rimbey, et al. study to evaluate potential direct impacts.

4.17.1 Analysis for All Alternatives

Impacts from Alternative 1

Alternative 1 authorizes grazing operations under new permits and allocates vegetation production based on the application of a uniform formula. Temporary Non Renewable (TNR) permits would be available for areas dominated by annual vegetation on a yearly basis.

Economic Conditions

Under Alternative 1, permitted AUMs would increase above the previously permitted AUMs in 11 of the 18 allotments. However, for most allotments, the increase is smaller than the amount of Temporary Non Renewable (TNR) use in the highest year such use was authorized in the past 13 years on most allotments. Therefore, there may be minor direct impacts to use of allotments in which TNRs may have added some AUMs for a high use year. These impacts would include minor reduction in total revenues. Ranches not utilizing TNRs, on the other hand, may have revenue increases commensurate with increases in AUMs permitted.

Social Conditions

Direct impacts to social conditions should be negligible under this Alternative. It is unlikely that minor direct economic impacts would change the social structure or reduce the number of individuals working in ranching in the study area. Long term gain in land management flexibility should act to strengthen social conditions for the study area.

Environmental Justice

The majority of the residents of Owyhee and Twin Falls Counties are white (> 75 percent in each county). However, it is unknown what percentage of those working in the ranch industry may constitute minorities or those below the poverty level. For this reason, it is not prudent to negate the possibility of minor

economic impacts for these individuals. It should be short-term impact, with increased land use management flexibility resulting in a strengthened economic outlook.

Cumulative Impacts

Cumulative impacts may include the need to utilize other forage options to replace those lost under the removal of some BLM lands (i.e., TNRs) for grazing. The options may include leasing outside private forage, converting native meadow hayland to irrigated pasture, extending the hay feeding period, purchasing additional hay and reducing the size of the cow herd.

Conclusion

Potential impacts from implementation of this Alternative would likely be minor and isolated to the ranches that would lose some BLM grazing from TNRs in high use years. Impacts may include reduced revenue and reduction in herd sizes as BLM grazing is reduced. Off-ranch income may become more of necessity, but it is unlikely that ranches would go out of business unless all BLM grazing is removed from the forage base. Impacts may be mitigated by leasing outside private forage, converting native meadow hayland to irrigated pasture, extending the hay feeding period, purchasing additional hay, and reducing the size of the cow herd.

Impacts from Alternative 2

Alternative 2 allocates vegetation production based on objectives identified for the Management Unit Areas in the 1987 RMP. Permitted grazing levels would be limited to proposed 20-year use identified in the Jarbidge RMP Record of Decision. For most allotments, the proposed stocking rate under this Alternative is the same as that for Alternative 1. The main difference is that no TNR permits would be issued for annual grass production.

Economic Conditions

Direct economic impacts would be similar, but perhaps slightly more severe than Alternative 1, due to the loss of TNR use. Examples of these impacts may include reduced revenue and reduced herd size. Additionally, there may be some potential for loss of seasonal labor positions.

Social Conditions

Direct impacts to the social structure of the study area are not likely in the short term. Long term impacts may include minor changes in terms of

the number of ranches or individuals working in the ranching industry, as well as the loss of rural character if individual ranches are sold or suffer bankruptcy.

Environmental Justice

Direct impacts from this Alternative may include loss of some number of seasonal jobs associated with revenue declines. Long term impacts would be similar, but stretched out over a period of years. Again, it is not known what level of minority ranch ownership or minority or impoverished workers may be employed in the study area.

Cumulative Impacts

Cumulative impacts may include the need to utilize other forage options to replace those lost under the removal of some BLM lands for grazing. The options may include leasing outside private forage, converting native meadow hayland to irrigated pasture, extending the hay feeding period, purchasing additional hay and reducing the size of the cow herd.

Conclusion

The impacts should be minor to moderate, with reduction in revenue and herd size being potential outcomes for those ranches more heavily dependent on TNRs.

Impacts from Alternative 3

This Alternative would issue grazing permits based on preexisting levels and TNR permits would be authorized in addition to the permitted level limited to the “historic range of use” summarized in Table 2.1, Section 2. It is assumed the same level of TNR would be authorized annually. Some adjustments would be required in existing operations for some allotments to be in conformance with management guidelines prescribed for each allotment (Tables 2.1 and 2.2, Section 2).

Economic Conditions

Economic conditions from this Alternative should mirror those of existing conditions in the short term, with negligible direct impacts. The long-term management of grazing would have less flexibility, thus long-term indirect economic impacts could be realized due to a reduction in rangeland health. This could lead to loss of revenues, increased borrowing for ranch operations, and potentially to loss of jobs.

Social Conditions

Social conditions should suffer negligible impacts under this Alternative in the short term. Long term conditions may be altered with the lower land management flexibility referred to under economic conditions. Indirect impacts may include a reduction in rangeland health, leading to a commensurate reduction in the rural character of the study area.

Environmental Justice

Environmental justice would have negligible impacts in the short term from this Alternative. Long term indirect impacts could include loss of jobs for minority or low income workers, and loss of ranch viability for ranches owned and operated by individuals with limited economic resources, if they exist in the study area.

Cumulative Impacts

The cumulative impacts may include the diminishing condition of rangeland in the study area and beyond, with reduction in long term economic and social conditions. This assumes that rangeland health would decline based on the continuance of current land management strategy, and that lands outside the study area may be affected, as ranchers look elsewhere for grazing resources.

Conclusion

This Alternative, basically the No Action Alternative, would change little in terms of economic and social conditions in the short term. More difficult to predict are the long term ramifications to the area's economy and social fabric, from the perceived lack of land management flexibility currently believed to exist. Assuming that a continuance of the status quo would lead to a reduction in overall rangeland health over time, then there could certainly be reductions in ranch revenues, herd sizes, and perhaps a loss of jobs in this industry within several years.

Impacts from Alternative 4

This Alternative would authorize grazing operations under new permits at the present permitted levels (Table 2.3, Section 2). No TNR would be authorized. This Alternative represents a reduction in historic range of authorized use for those allotments which used a number of AUMS under TNR most years. These allotments are: 71 Desert, Cedar Creek, Coonskin AMP, Flat Top, Noh Field, and Pigtail Butte.

Economic Conditions

Direct impacts would be moderate to major based on the individual ranch usage of TNRs. If a given ranch relied on TNRs for a significant (>50 percent) portion of its forage base, then sharp declines in ranch revenue and herd size could be realized. Increased borrowing to cover ranch operating expenses would probably take place.

Social Conditions

Direct impacts to social conditions under this Alternative may include a loss of jobs in the ranch industry. Indirect impacts may include gradual change to the rural aspect of study area, as people find more lucrative jobs in other industries.

Environmental Justice

Direct impacts from this Alternative may include loss of some number of seasonal jobs associated with revenue declines. Long term impacts would be similar, but stretched out over a period of years. Again, it is not known what level of minority ranch ownership or minority or impoverished workers may be employed in the study area.

Cumulative Impacts

Cumulative impacts may include the need to utilize other forage options to replace those lost under the removal of some BLM lands (i.e., TNRs) for grazing. The options may include leasing outside private forage, converting native meadow hayland to irrigated pasture, extending the hay feeding period, purchasing additional hay and reducing the size of the cow herd.

Conclusion

This Alternative may create more overall change to the fabric of the ranching community of the study area than the other Alternatives considered. The severity of that change would depend on what proportion of the area ranches are viable only with the use of TNRs. If the total number of those ranches relying on TNRs is substantial, then the impacts may be severe and long lasting. On the other hand, if the total number of TNR-dependent ranches is low, the impacts would likely not be of long term consequence.

4.18 Cumulative Impact Summary

The National Environmental Policy Act of 1969 (NEPA) defines cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.” In order to provide a broader context and perspective for the impacts identified in this EA, this section will identify other actions and events that are directly related to the impacts of the proposed action and Alternatives. Also, it will summarize the cumulative impacts of the historic, ongoing, and foreseeable actions, as well as provide an overview of the anticipated cumulative impacts of the Alternatives addressed in this EA.

4.18.1 Cumulative Impacts of Historic Actions

Prior to passage of the Taylor Grazing Act in 1934, public land grazing was unregulated and many areas in southern Idaho were degraded from excessive livestock use. Settlers diverted water from streams to irrigate private lands. In the early 1900s, cheatgrass (an introduced highly flammable annual grass from Eurasia), spread throughout arid rangelands in the western United States. As a result of improper livestock grazing and wildfire removing native vegetation, cheatgrass was allowed to colonize and spread rapidly (Zouhar 2003). The resulting large expanses of cheatgrass on western rangelands altered the natural fire regime of the native ecosystems, creating more-frequent and hotter wildfires. Intense and recurring wildfires have weakened or killed many desirable native perennial species and led to an ever-increasing spread of cheatgrass. As noted in Section 3.6 Fire Ecology, 44 percent of the 18 grazing allotments have burned at least once, and 17 percent have burned multiple times within the last 50 years.

Over the last 40 years, BLM has reseeded a majority of the areas burned by wildfires with Crested Wheatgrass, a hardy introduced perennial grass that is usually successful in becoming established in dry areas following wildfires (Zlatnik 1999). Once established, Crested Wheatgrass stabilizes exposed soils and

helps to prevent invasion of cheatgrass and other annual weeds. In recent years, BLM has expanded the fire rehabilitation program to allow reseeding of additional species, including native grasses, forbs, and shrubs as recommended by an interdisciplinary team. However, at the present time, vast expanses of the study area are dominated by Crested Wheatgrass.

The cumulative impacts of past livestock grazing, water diversion, repeated wildfires, cheatgrass invasion, and reseeding with Crested Wheatgrass have caused major changes in the condition of natural resource values within the study area. During the past century, cumulative negative impacts have included compaction and erosion of susceptible soils, reduction and replacement of native plant communities, invasion of noxious weeds, degradation of riparian areas and aquatic habitat, diversion of streamflows, permanent damage to stream channels, deterioration of water quality, loss of critical habitat for special status species, fragmentation of wildlife habitat, and disturbance and loss of cultural resources. Many of these impacts are irreversible in the short term; however, in the long term conditions can be stabilized and improved by careful management.

4.18.2 Impacts of Current and Future Actions

BLM is currently in the process of adjusting and re-authorizing all livestock grazing within the Jarbidge Resource Area. One EA (ID-097-03-040) analyzing the proposed grazing permits for an initial group of seven allotments was completed on May 1, 2003. The second group, including 18 allotments, is analyzed in this current EA. Within the next several months, two more EAs are scheduled to address the last two groups of 8 and 18 allotments. The cumulative effect of the grazing decisions issued subsequent to these EAs would depend on the outcome of the administrative review process. It is anticipated that the renewed grazing permits would implement adjustments in stocking rates, temporary-nonrenewable use, seasons of use, management guidelines, and range improvements based on the analyses contained in the EAs. A summary of the cumulative impacts for each of the Alternatives is addressed in Section 4.18.3. Cumulative impacts resulting

from grazing changes in the other groups of allotments would be expected to be similar.

In addition to the renewal of all grazing permits within the Jarbidge Resource Area, other ongoing and newly initiated actions would affect the natural environment in the future. For example, the U.S. Air Force would continue to develop, maintain, and use their two tactical training ranges, Saylor Creek and Juniper Butte, and the associated no-drop sites and emitter sites. The most noticeable impact of the Air Force activities is the noise, including sonic booms, produced by the military jet airplanes during training exercises. The loud noises can be startling and disturbing to livestock, wildlife, and humans.

Another ongoing and apparently increasing activity is the recreation that occurs on public land within the Jarbidge Resource Area. Although public land use is still generally sparse and dispersed, interest in the undeveloped and unconfined desert environment appears to be growing. Off-highway vehicle use is not a serious problem in most of the Area at the present time; however, any large increases would create conflicts with wildlife and other uses. Even additional general recreation use could cause conflicts with other uses and increase the possibility of more man-caused wildfires.

The only major project that is reasonably foreseeable at this time is an electric power generation "wind farm" proposed by Renewable Energy System (RES). BLM is currently in the process of offering RES an authorization to install four meteorological towers to test the wind speed and variation over the next three years. If the test data are favorable, RES would have a preference right to file an application on 13,269.95 acres for development of the actual wind farm. In that case, an EIS would be prepared and a decision would be issued on the proposal.

If the wind farm were authorized and developed as proposed, it would include public lands within the Antelope Spring, Brackett Bench, Cedar Creek, and North Fork Field allotments. Although details of the potential project have not been determined, it would be expected to consist of 150 to 250 wind turbines mounted on large towers, upgraded access roads, maintenance facilities, electric substations, and power lines to transmit the generated electricity to the high-

voltage transmission line near U.S. Highway 93. These developments could have a considerable impact on livestock grazing operations, forage production, wildlife habitat, and other values.

4.18.3 Cumulative Impacts of Alternatives

The impacts identified in this EA are interrelated and are influenced by other past and future actions as previously mentioned. Under Alternative 1 (the Proposed Action), the cumulative impacts would be generally positive in comparison to the present situation. Resource conditions in the 18 allotments would be expected to move toward more fully meeting the Idaho Standards for Rangeland Health. Permitted livestock grazing use would be adjusted to be less than the total actual use (permitted plus TNR) authorized in the past, seasons of use would be more flexible, management guidelines would be applied, and protective fencing and other improvement projects would be constructed. This proposed management is to allow changes to be made on an annual basis based on feedback from the previous year. The intent is to improve and protect sagebrush steppe habitat for wildlife like sage grouse. It is also designed to be beneficial to upland and riparian vegetation, watershed conditions, cultural resources, paleontological values, recreational opportunities, and visual resources.

On the other hand, it is difficult to predict how the Proposed Action would affect future wildfire occurrences. Although TNR could be authorized in areas dominated by annual vegetation, the utilization limits imposed by the management guidelines would result in more residual vegetation in some areas than has been typical in the past. The presence of additional fuels could increase wildfire hazard and the amount of acreage burned annually. Increased wildfires could at least partially offset the gains resulting from other changes.

Cumulative impacts of Alternative 2 would be much the same as Alternative 1. The primary difference would be the additional benefits to upland vegetation and bighorn sheep resulting from changing the season of use to eliminate early-spring grazing from some of the allotments. Ironically, this change could have an adverse affect on riparian areas, by encouraging

grazing during the hot summer season, when wet areas are most susceptible to being damaged by grazing. The generally lower stocking rate of this Alternative would benefit native vegetation communities; however, no TNR would be authorized under this Alternative, and the potential for increased fires would be slightly greater than for Alternative 1.

Cumulative impacts of Alternative 3 would also be similar to Alternative 1, except that continuing to allow TNR grazing use, similar to historical use, would not provide the benefit of reduced stocking rates. Considering that the same management guidelines would be applied as in Alternative 1, utilization levels would be monitored and controlled, and areas of concentrated use (especially on native vegetation) would be reduced from the present situation.

Cumulative impacts of Alternative 4 would be similar to Alternative 1, except that most of the range improvements proposed under Alternative 1 would not be implemented, and the related benefits would not be realized. The stocking rate in several allotments would be less than under Alternative 1, and much less than historical use. This lower stocking rate would tend to reduce utilization in areas that are already grazed less heavily. In other words, distribution of grazing use would be more uneven than under the other Alternatives. Because of the lower stocking rate and no provision for TNR, fire hazard would be slightly higher than under the other Alternatives and considerably higher than under the present situation.

Section 5.0 - Consultation and Coordination

This chapter describes the public participation activities conducted as part of this environmental assessment. A list of agencies and individuals consulted can be found in Appendix G.

Public scoping of issues began when a letter of intent was issued on March 7, 2003, to prepare an environmental assessment for the renewal of livestock grazing permits and allocation of excess forage that has historically been authorized as Temporary Non-Renewable grazing use and address development of management guidelines to address livestock grazing standards and guides.

A letter announcing a public scoping open house was sent to interested publics, Wilderness Study Area interested publics list, and Tribal councils on December 4, 2003. The letters notified the public of a public scoping open house to be conducted December 17, 2003, from 3:00-9:00 PM at the KMVT-TV public room (1100 Blue Lakes Blvd. North, Twin Falls, ID). Also as part of the public scoping meeting paid news releases were placed in the *Mt. Home News*, the *Twin Falls -Times News* and *The Owyhee Avalanche* newspapers announcing the public meeting. Local radio stations also carried notifications of the meeting the day of the meeting.

From December 5, 2003 through December 30, 2003, consultation meetings were held with affected grazing permit holders in accordance with grazing administration regulations (43 CFR 4210).

Six public/agency issue letters were received through February 1, 2004. Letters were received from:

- Western Watersheds Project (December 21, 2003)
- Idaho Department of Environmental Quality (December 31, 2003)
- Idaho Department of Parks and Recreation (December 31, 2003)
- Carl H. Nellis (January 5, 2004)
- Idaho Department of Fish and Game (January 15, 2004)
- Committee for the High Desert (January 19, 2004)

Copies of the scoping letters, notices and comment letters received are part of the administrative record for the assessment and copies may be reviewed at the BLM, Jarbidge Field Office.

5.1 Public Scoping Meeting Open House JFO BLM On EA Alternatives

A public scoping open house was conducted December 17, 2003, from 3:00-9:00 PM at the KMVT-TV public room (1100 Blue Lakes Blvd. North, Twin Falls, ID). Attending the public meeting were Terry Costello, Jim Melton, William West, Jerry Barker from Dynamac, Corp. (contractor preparing the Environmental Assessment for the BLM), and Jeff Steele, Eddie Guerrero and Arnie Pike from the BLM, Jarbidge Field Office.

The public scoping was conducted in an "Open House" format. Members of the BLM and Dynamac team were available to talk to the public, answer questions, and accept any verbal or written comments. Handout material was available and can be found in the Appendix A to this record. Additional reference material was available for review during the meeting, but was not made available as handouts because they were draft information and subject to change. Reference material is included in the administrative record of this action, but is not included in this report. There were also maps and other material posted on the walls for:

- Allotments
- Special Management Areas (WSAs, ACECs, etc.)
- Vegetation
- Idaho Standards and Guides
- Proposed Management guidelines for the proposed action

Most of the public came to gather information about the proposed actions and Environmental Assessment. There were only two written comments provided and these are available for review at the Jarbidge Field Office. There were also two verbal comments provided.

Verbal comments include:

- The fairness of forage allocation in these allotments vs. the suspended non-use grazing preference in other allotments in the area (Scott Tverdy)
- The appearance that the TNR conversion analysis is being fragmented (Carl Nellis).

Written comments include:

- Satisfy suspended non-use grazing preference in other allotments before conversion of Temporary Non-Renewable grazing use to ten-year permitted use.
- Proposed action is reasonable and appropriate.

5.2 Summary Of Comments Letters Received

Six comment letters were received between December 17, 2003 and February 1, 2004. Issues, comments and/or questions raised in the comment letters include:

- Protection of the Idaho Centennial Trail and Off Highway vehicle use.
- Impacts on Big Horn Sheep from the interaction between livestock and Big Horn Sheep.
- Increase the protection and management of wildlife habitat, especially winter habitat.
- Fragmentation of environmental analysis into multiple environmental assessments that is more appropriately analyzed in and Environmental Impact Statement.
- Impacts on surface water quality standards and requirements under the Clean Water Act.
- The proposed action is a major federal action that should be analyzed in an Environmental Impact Statement.
- The environmental analysis conducted in the Jarbidge Resource Management Plan/Environmental Impact Statement is outdated and no longer accurate.
- The range of alternatives presented in the assessment is too limited.

- An economic analysis should be conducted on the proposed action and alternatives.
- The quality of data used in the analysis is suspect and additional inventory and monitoring studies need to be conducted to provide adequate data for the assessment.
- What are the impacts on special status plants and animals?
- What are the impacts on the spread of noxious and invasive plant species?
- What are the impacts on spring flow rates and water rights claims?
- What is the condition and health of seedings and ecological condition of native ranges within the affected allotments?
- What changes in livestock utilization patterns will result from the proposed action and alternatives.
- What are the impacts on sage grouse habitat (e.g. nesting cover) and populations?
- What is the status of, and impact on, fragmentation of native plant communities and wildlife habitat?
- What are the impacts on riparian areas and riparian area plant production and health?
- Ability to maintain livestock use levels without additional vegetation treatments.

Issues raised in the comment letters were considered during the assessment process.

APPENDIX A

Allotment Management Information

Allocation of Vegetation Formula

For several years the BLM Jarbidge Field Office (JFO) has authorized temporary non-renewable (TNR) grazing use in about 40 allotments, in addition to the regular permitted use. The 1987 Jarbidge Resource Management Plan predicted the availability of additional livestock forage production in these allotments. The accepted method by the Society of Range Management and rangeland ecology professionals for determining proper stocking rates for livestock grazing is to compare actual use and utilization data to long-term trend. JFO has collected long-term actual use and some trend data, but does not have long-term utilization data. Therefore, in developing the proposed action and alternatives for this EA, it was necessary to develop a consistent method to determine a base allocation level for watershed, wildlife and livestock.

In the absence of long-term utilization data, production data was collected in 2002 and 2003 for allotments where TNR has been issued in the last 10 to 20 years. This data was collected following the techniques described in BLM's Inventory and Monitoring Technical Reference 1734-7, Ecological Site Inventory. The production data was not collected as part of a comprehensive Ecological Site Inventory, but rather a sampling of the vegetation communities in the allotments, to provide the necessary base data to determine allocation levels. This sampling was accomplished by first reviewing the respective soil surveys to identify ecological sites within pastures. The plant communities (i.e., native, annual or seeded communities) within ecological sites were identified through vegetation mapping. Sampling was done by ecological site in the dominant plant communities readily accessible to and used by livestock.

The acreage of each vegetation community in each pasture was determined, and the production level determined by sampling was applied to this acreage to get an estimated total production for each plant community. Then the totals for each plant community were added together to determine the total production by pasture. If the plant community was not specifically sampled in a particular pasture, a production level was used based on a site with like vegetation composition in another pasture. The production was normalized by adjusting it with the Yield Index developed in accordance with the "Adjusting and Forecasting Herbage Yields in the Intermountain Big Sagebrush Region in the Steppe Province" (USDA, 1983).

The amount of vegetation production in the JFO area varies widely from year to year due to the variability of precipitation. This variability is greater in the northern portion of the area where climate is drier than it is in the wetter southern portion. In consideration of this production variability, it was decided to allocate at a level that would be available most years and still provide adequate vegetation for wildlife forage and cover. The Society for Range Management defines drought as less than 75 percent of average precipitation. This factor was applied to incorporate drought into permitted use by determining the percentage of years that precipitation was above 75 percent of average at representative weather stations where long-term data (at least 30 years) is available.

As an example, at the Glenns Ferry NOAA weather station in the northern portion of the JFO area, the precipitation was greater than 75 percent of average 68 percent of the years. In the southern portion of the JFO area at the Three Creek weather station, the precipitation has been greater than 75 percent of the average 77 percent of the time.

The proposed management guidelines prescribe 50 percent at key areas for pastures that are primarily areas seeded to Crested Wheatgrass vegetation communities; and 40 percent at key areas for pastures that are primarily composed of native vegetation communities or seeding with at least 15 percent sagebrush cover. In order to provide a single prescribed level for the allotment, each prescribed use level is multiplied times the total pounds of production for that pasture¹. The prescribed pounds of use in all the pastures is summed and divided by the total pounds produced in the allotment which provides a "weighted use factor (WUF)" for the entire allotment.

¹ The utilization factors are multiplied by the full range forage production for mathematical purposes and does not indicate that all the forage production would be grazed at that level.

In an example allotment, there are 33,240,872 pounds of forage vegetation production (only grass species) in a near-normal year. Of that total forage production, 5,106,479 pounds could be grazed up to 40 percent and 28,134,393 pounds could be grazed up to 50 percent. So the prescribed usable production would be $5,106,479 \text{ lb.} \times 40\% = 2,042,592 \text{ lb.}$, plus $28,134,393 \text{ lb.} \times 50\% = 14,067,196 \text{ lb.}$, for a total of 16,109,789 pounds of forage on a near-normal year. The WUF is calculated by dividing this prescribed usable production by the total pounds of production ($16,109,789 \text{ lb.} / 33,240,872 \text{ lb.} = .48$), so the WUF is 48%.

The WUF indicates that during a near normal precipitation year, meeting the prescribed utilization levels will result in a utilization level of 48 percent of the normal year's forage production. Since precipitation is near normal only 68 percent of the time, the allocation level is 33 percent of the total production on a near normal precipitation year (The WUF of 48% \times 68% of the years = 33%). The remaining 67 percent of the forage production and all of the production of shrubs and forbs is allocated to watershed and wildlife.

The allocation level provided by this method would be monitored into the future. Utilization, actual use, trend, and production data would be gathered and used to make any necessary future adjustments to the allocation level established by this method.

In those allotments that include Wilderness Study Area (WSA) lands, any increases in allocation levels would need to be consistent with the Jarbidge Wilderness EIS (1987) and BLM's Interim Management Policy (IMP), contained in BLM Manual Handbook H-8550-1. In order to comply with the IMP, additional utilization and trend monitoring would be necessary prior to increasing permitted use in allotments with WSA lands. The trend studies would be read at least two different years, far enough apart to establish static or upward trend, and utilization measurements would be taken within the WSA to provide base data to determine if further adjustments in use were needed after any increase was authorized. Until this monitoring requirement is met, grazing use in pastures with WSA acres will continue at the same level authorized at the time the WSA was designated.

Reference:

USDA. 1983. Adjusting and forecasting herbage yields in the intermountain big sagebrush region in the steppe province. Agriculture Experiment Station, Oregon State University, Corvallis and Agricultural Research Service, U.S. Department of Agriculture, Station Bulletin 659. August 1983.

Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management

STANDARD 1 (WATERSHEDS)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Indicators may include, but are not limited to, the following:

1. The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

STANDARD 2 (RIPARIAN AREAS AND WETLANDS)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Indicators may include, but are not limited to, the following:

1. The riparian/wetland vegetation is controlling erosion, stabilizing streambanks, shading water areas to reduce water temperature, stabilizing shorelines, filtering sediment, aiding in floodplain development, dissipating energy, delaying flood water, and increasing recharge of groundwater appropriate to site potential.
2. Riparian/wetland vegetation with deep strong binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
3. Age class and structural diversity of riparian/wetland vegetation is appropriate for the site.
4. Noxious weeds are not increasing.

STANDARD 3 (STREAM CHANNEL/FLOODPLAIN)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Indicators may include, but are not limited to, the following:

1. Stream channels and floodplains dissipate energy of high water flows and transport sediment. Soils support appropriate riparian-wetland species, allowing water movement, sediment filtration, and water storage. Stream channels are not entrenching.
2. Stream width/depth ratio, gradient, sinuosity, and pool, riffle and run frequency are appropriate for the valley bottom type, geology, hydrology, and soils.
3. Streams have access to their floodplains and sediment deposition is evident.
4. There is little evidence of excessive soil compaction on the floodplain due to human activities.
5. Streambanks are within an appropriate range of stability according to site potential.
6. Noxious weeds are not increasing.

STANDARD 4 (NATIVE PLANT COMMUNITIES)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Indicators may include, but are not limited to, the following:

1. Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
2. The diversity of native species is maintained.
3. Plant vigor (total plant production, seed and seedstalk production, cover, etc.) is adequate to enable reproduction and recruitment of plants when favorable climatic events occur.
4. Noxious weeds are not increasing.
5. Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 5 (SEEDINGS)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Indicators may include, but are not limited to, the following:

1. In established seedings, the diversity of perennial species is not diminishing over time.
2. Plant production, seed production, and cover are adequate to enable recruitment when favorable climatic events occur.
3. Noxious weeds are not increasing.
4. Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 6 (EXOTIC PLANT COMMUNITIES, OTHER THAN SEEDINGS)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Indicators may include, but are not limited to, the following:

1. Noxious weeds are not increasing.
2. The number of perennial species is not diminishing over time.
3. Plant vigor (production, seed and seedstalk production, cover, etc.) of remnant native or seeded (introduced) plants is maintained to enable reproduction and recruitment when favorable climatic or other environmental events occur.
4. Adequate litter and standing dead plant material is present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 7 (WATER QUALITY)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Indicators may include, but are not limited to, the following:

1. Physical, chemical, and biologic parameters described in the Idaho Water Quality Standards.

STANDARD 8 (THREATENED AND ENDANGERED PLANTS AND ANIMALS)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Indicators may include, but are not limited to, the following:

1. Parameters described in the Idaho Water Quality Standards.
2. Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
3. Age class and structural diversity of riparian/wetland vegetation are appropriate for the site.
4. Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
5. The diversity of native species is maintained.
6. The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
7. Noxious weeds are not increasing.

GUIDELINES

1. Use grazing management practices and/or facilities to maintain or promote significant progress toward adequate amounts of ground cover (determined on an ecological site basis) to support infiltration, maintain soil moisture storage, and stabilize soils.
2. Locate livestock management facilities away from riparian areas wherever they conflict with achieving or maintaining riparian-wetland functions.
3. Use grazing management practices and/or facilities to maintain or promote soil conditions that support water infiltration, plant vigor, and permeability rates and minimize soil compaction appropriate to site potential.
4. Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate to site potential.
5. Maintain or promote grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.

6. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological functions, wildlife habitat, and significant cultural and historical/archaeological/paleontological values associated with the water source.
7. Apply grazing management practices to maintain, promote, or progress toward appropriate stream channel and streambank morphology and functions. Adverse impacts due to livestock grazing will be addressed.
8. Apply grazing management practices that maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.
9. Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
10. Implement grazing management practices and/or facilities that provide for complying with the Idaho Water Quality Standards.
11. Use grazing management practices developed in recovery plans, conservation agreements, and Endangered Species Act, Section 7 consultations to maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.
12. Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
13. On areas seeded predominantly with non-native plants, use grazing management practices to maintain or promote the physical and biological conditions to achieve healthy rangelands.
14. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Native species are emphasized for rehabilitating disturbed rangelands. Evaluate whether native plants are adapted, available, and able to compete with weeds or seeded exotics.
15. Use non-native plant species for rehabilitation only in those situations where:
 - a. native species are not readily available in sufficient quantities;
 - b. native plant species cannot maintain or achieve the standards; or
 - c. non-native plant species provide for management and protection of native rangelands.Include a diversity of appropriate grasses, forbs, and shrubs in rehabilitation efforts.
16. On burned areas, allow natural regeneration when it is determined that populations of native perennial shrubs, grasses, and forbs are sufficient to revegetate the site. Rest burned or rehabilitated areas to allow recovery or establishment of perennial plant species.
17. Carefully consider the effects of new management facilities (e.g., water developments, fences) on healthy and properly functioning rangelands prior to implementation.
18. Use grazing management practices, where feasible, for wildfire control and to reduce the spread of targeted undesirable plants (e.g., cheatgrass, medusa head, wildrye, and noxious weeds) while enhancing vigor and abundance of desirable native or seeded species.
19. Employ grazing management practices that promote natural forest regeneration and protect reforestation projects until the Idaho Forest Practices Act requirements for timber stand replacement are met.
20. Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.

**Table A.1 - Rangeland Health Standards¹ and
Proposed Management Guidelines**

Allotment Name	Rangeland Health	Proposed Management Guidelines²
71 Desert	The applicable Standards for Rangeland Health (Standards 1, 2, 3, 4, 5, 7, and 8) are not being met in the allotment, and progress is not being made toward achieving them. Current livestock grazing practices are a factor in not meeting Standards 1, 2, 3, 5; and do not conform to some of the Guidelines for Livestock Grazing Management ³ . Current livestock grazing is found not to be a factor for Standard 4, 7 and 8.	1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 15 (Continue to stock at 13.5 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
Antelope Springs	Standards 1, 2, 3, 4, 5, 7, and 8 are not being met, and progress is not being made toward achieving them. Current livestock grazing practices are a factor in not meeting Standards 1, , 4, 5, and 8; and do not conform to some of the Guidelines for Livestock Grazing Management. Current livestock management practices were not found to be a significant factor in not meeting Standard 2, 3 and 7.	1, 2, 5, 7, 8, 9, 10, 11, 13, 14, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Salmon Falls Creek Canyon.), 16
Blackrock Pocket	Standards 1, 4, and 8 are not being met, and progress is not being made toward achieving them. Livestock grazing practices are a factor in not achieving these Standards.	1, 9, 10, 11, 12, 13, 15 (No supplement feed such as salt or mineral in ACEC.), 16
Brackett Bench	Standards 1, 4, 5, and 8 are being met, or progress is being made toward achieving them, in Pastures 3, 4, 5, and 6. These Standards are not being met in Pastures 1 and 2, and current livestock grazing practices are a factor. Standards 2, 3, and 7 are not being met in Pastures 5 and 6, and current livestock practices are a factor. Some of the Guidelines for Livestock Grazing Management are not being met.	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Salmon Falls Creek Canyon.), 16
Bruneau Hill	Standard 1 is being met. Standards 4, 5, and 8 are not being met, and progress is not being made toward achieving them; however, current livestock grazing practices are not a factor in achieving these Standards.	1, 2, 9, 10, 11, 12, 13, 15 (Continue to stock at 9.6 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
Camas Slough	All applicable Standards are being met. Current livestock grazing practices are in conformance with the Guidelines for Livestock Grazing Management and are not to a factor in achieving the Standards.	1, 9, 11, 16
Cedar Creek	Standards 1 and 7 are being met. Standards 2, 3, 4, and 5 are not being met, progress is not being made toward achieving them, and livestock grazing practices are a factor. Standard 8 is not being met, and livestock grazing practices are not a factor. Current livestock practices do not conform to some of the Guidelines for Livestock Grazing Management.	1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Cedar Cr. or Cedar Cr. Reservoir to protect cultural resources.), 16
Coonskin AMP	Standards 1, 4, and 8 are being met. Standard 5 is not being made, and no progress is being made toward achieving it. Current livestock grazing practices are not a factor in achieving this Standard.	1, 3, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16
Crawfish	Standard 1 is being met. Standards 2 and 4 are not being met, progress is not being made toward achieving them, and current livestock grazing practices are a factor. Standard 8 is not being met, but current livestock grazing practices are not a factor.	1, 9, 10, 11, 13, 16
East Juniper Draw	Standards 1, 4, 5, and 8 are not being met, but current livestock grazing practices are not a factor in achieving them.	1, 9, 11, 15, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16

Allotment Name	Rangeland Health	Proposed Management Guidelines²
Echo 4	A determination was made on 12/20/99 that applicable Standards were not all being met, and livestock grazing practices were not a factor. An EA was prepared and a Final Grazing Decision made to implement grazing management in this allotment. Guidelines for Livestock Grazing Management are being met.	1, 3, 9, 11, 16
Flat Top	A determination was made on 11/26/99 that applicable Standards were not all being met. Standard 1 is presently being met. Standards 4 and 8 are not being met and livestock grazing practices are a significant factor. Standard 5 is not being met, but livestock grazing practices are not a factor. Monitoring information acquired in 2002 shows that some of the rangeland previously in poor (early seral) ecological condition is now in fair (mid-seral) ecological condition.	1, 2, 9, 10, 11, 12, 13, 15 (Continue to stock at 10.8 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
Grassy Hills	Standards 1 and 4 are being met. Standard 8 is not being met because of the loss of big sagebrush from wildfire. Current livestock grazing practices are not a factor.	1, 9, 11, 16
Noh Field	Standard 4 is being met. Standard 1, 5, and 8 are not being met, and progress is not being made toward achieving them. Current livestock grazing practices are a factor in meeting Standards 1 and 5, and are not a factor in meeting Standard 8.	2, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16
North Fork Field	Standards 1 and 4 are being met. Standards 2, 3, 7, and 8 are not being met, and progress is not being made toward achieving them. Livestock grazing practices are a factor in not achieving the standards and do not conform to some of the Guidelines for Livestock Grazing Management.	1, 5, 6, 8, 9, 11, 14, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Hedgehog cactus sites.), 16
Pigtail Butte	Standard 4 is being met. Standards 2, 3, 5, and 7 are not being met, progress is not being made toward achieving them, and current livestock grazing practices are a factor. Standard 5 is being met in all pastures except Northeast Roseworth, East Clark Seeding and West Clark Seeding. In these pastures current livestock grazing is a factor. Standards 1 and 8 are not being met, but livestock grazing practices are not a factor. Current grazing practices do not conform to some of the Guidelines for Livestock Grazing Management.	1, 2, 3, 5, 6, 8, 9, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Cedar Cr. or Cedar Cr. Reservoir to protect cultural resources.), 16
Three Creek #8	Standards 1, 4, and 5 are being met. Standards 2, 3, 7, and 8 are not being met, progress is not being made toward achieving them, and current livestock grazing practices are a factor. Current grazing practices do not conform to some of the Guidelines for Livestock Grazing Management.	1, 5, 6, 8, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from perennial streams to protect cultural resources.), 16
Winter Camp	Standards 1, 2, 3, 4, 5, 7, and 8 are not being met and progress is not being made toward achieving them. Current livestock grazing practices are a factor in achieving Standards 2, 3, 4, and 5 and do not conform to the Guidelines for Livestock Grazing Management. Current livestock grazing management practices are not a factor in meeting Standards 1, 7, and 8.	1, 6, 8, 9, 10, 11, 12, 13, 15 (Continue to stock at 23.4 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC. Supplement feed such as salt or mineral must be at least .25 mile from Dry Lakes Complex and E. Fk. Bruneau River Canyon to protect cultural resources.), 16

¹ Rangeland Health Standards (also "Standards" or "S&Gs") refer to the Standards for Rangeland Health as adopted by the Lower Snake River District Resource Advisory Council. The Standards are described previous to this table in Appendix A. Only the applicable Standards are addressed for each allotment.

² Management Guidelines are presented in the text of Section 2.6 of the EA.

³ Guidelines for Livestock Grazing Management refer to those adopted by the Lower Snake River District Resource Advisory Council, in conjunction with the Rangeland Health Standards, and are not to be confused with the Management Guidelines proposed in this document.

Table A.2 - RMP Objectives Relating to Grazing Management

Allotment Name	Jarbidge RMP Objectives
71 Desert	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA-10 from 6,238 AUMs to 7,021 AUMs by the year 2005 (II-40) and in MUA 11 increase from 20,078 AUMs to 33,423 AUMs (II-44). ◆ Maintain 1,866 and 21,177 acres of existing vegetative improvements (II-40, II-44). ◆ Improve 56,576 and 139,244 acres of lands in poor (early seral) ecological condition (II-40, II-44); Seventy-one Desert had 29,757 acres in poor condition. ◆ In MUA 10, manage big game habitat to support 2,160 mule deer in the winter and 260 mule deer the rest of the year, 191 antelope, and 208 bighorns and protect existing and potential bighorn habitat through special designation and management. Existing populations are 1320 winter mule deer, 200 mule deer rest of year, 21 bighorn, and 105 antelope (II-40). ◆ In MUA 11, improve big game habitat to support 350 mule deer and 70 antelope in winter and 200 the rest of the year. Existing population are 300 mule deer and 50 antelope in winter, 100 the rest of the year. Improve 2,500 acres of big game habitat by 2005. (II-44). ◆ In MUA 10, improve sage grouse nesting through seeding and rehabilitation. Maintain current upland game nesting and cover habitat (II-40). ◆ In MUA 10, improve 4.7 miles of riparian habitat and 11.1 miles of fisheries habitat by 2005 (II-40). ◆ In MUA 11, improve 26.1 miles of riparian habitat and 21.6 miles of fisheries habitat by 2005 (II-44). ◆ In MUA 10 and 11, protect the cultural values of the Dry Lakes/ Bruneau River Complex through special designation and management.
Antelope Springs	<ul style="list-style-type: none"> ◆ Issue 20,169 AUMs forage for livestock in MUA-13 and 26,466 AUMs in MUA-15 by the year 2005 (II-50, II-56). ◆ Maintain 47,510 and 24,159 acres existing vegetative improvements (II-50, II-56). ◆ Improve 48,396 acres (MUA-13) and 58,628 acres (MUA-15) lands in poor ecological condition (II-50, II-56); Antelope Springs was noted as having 14,326 acres in poor condition. ◆ Manage big game habitat in MUA-13 to support 175 mule deer and 50 antelope (II-50); manage big game habitat in MUA-15 to support 2400 mule deer in winter, 1,285 mule deer the rest of the year, 1170 antelope; and protect crucial winter big game habitat (II-56). ◆ Improve 4,900 acres of big game habitat by 2005 in MUA-15 (II-56). Bighorn objectives in the MUA only apply along the East Fork Jarbidge River Canyon and not in this allotment. ◆ Maintain present areas of sage grouse nesting habitat in MUA-13 (II-50). ◆ Maintain current condition of riparian habitat and fisheries habitat in MUA-13 (II-51) and in MUA-15 improve 9.6 miles of riparian habitat by 2005 (II-56).
Blackrock Pocket	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock from 8,052 AUMs to 10,996 AUMs by the year 2005. ◆ Improve 48,031 acres of land in poor (early seral) ecological condition ◆ Manage big game habitat to support 1,780 mule deer in the winter and 820 mule deer the rest of the year, 151 antelope, and 100 bighorns. Existing populations are 1,475 mule deer in winter, 500 mule deer rest of year; 140 antelope and 2 bighorns. Protect all crucial big game winter habitat. ◆ Protect the scenic and recreational values of 15 miles of the Bruneau River through special management designation and management. ◆ Improve 1,350 acres of bighorn habitat.
Brackett Bench	<ul style="list-style-type: none"> ◆ Issue 20,169 AUMs forage for livestock in MUA-13 and 26,466 AUMs in MUA-15 by the year 2005 (II-50, II-56). ◆ Maintain 47,510 and 24,159 acres of existing vegetative improvements (II-50, II-56). ◆ Improve lands in poor ecological condition (II-50, II-56). ◆ Manage big game habitat in MUA-13 to support 175 mule deer and 50 antelope (II-50);

Allotment Name	Jarbidge RMP Objectives
	<p>manage big game habitat in MUA-15 to support 2400 mule deer in winter, 1,285 mule deer the rest of the year, and 1,170 antelope, and 56 bighorn sheep (up from 2); and protect crucial winter big game habitat (II-56). Bighorn objectives in the MUA only apply along the East Fork Jarbidge River Canyon and not in this allotment.</p> <ul style="list-style-type: none"> ◆ Improve 4900 acres of big game habitat by 2005 in MUA-15 (II-56). ◆ Maintain present areas of sage grouse nesting habitat in MUA-13 (II-50). ◆ Maintain current condition of riparian habitat and fisheries habitat in MUA-13 (II-50) and in MUA-15 improve 4.7 miles of fisheries habitat and 9.6 miles of riparian habitat by 2005 (II-56).
Bruneau Hill	<p>In MUA 5 (II-24 to 27):</p> <ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 from 4482 to 5631 AUMs in MUA 5. ◆ Maintain existing vegetative improvements (5414 acres). ◆ Improve lands in poor (early seral) ecological condition (15,379 acres). ◆ Manage big game habitat to support 150 deer. Existing population (1987) is 50 mule deer. <p>In MUA 6 (II 27-30):</p> <ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 from 12,136 to 47,772 AUMs. ◆ Maintain acres existing vegetative improvements (75,107 acres). <p>Improve lands in poor (early seral) ecological condition (75,208 acres).</p> <ul style="list-style-type: none"> ◆ Manage big game habitat to support 40 mule deer. Existing mule deer is 25 (1987). <p>Maintain present levels of upland game nesting and cover habitat.</p> <p>In MUA-10 (II 39-43):</p> <ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 in from 6,238 to 7,021 AUMs. ◆ Maintain current condition of riparian habitat. <p>Improve lands in poor (early seral) ecological condition (56,576 acres).</p> <ul style="list-style-type: none"> ◆ Manage big game habitat to support 2,160 winter mule deer and 260 mule deer the rest of the year, 191 antelope, and 208 bighorns and protect existing and potential bighorn habitat through special designation and management. Existing populations are 1,320 winter mule deer, 200 mule deer rest of year. ◆ Improve sage grouse nesting through seeding and rehabilitation. Maintain current upland game nesting and cover habitat. ◆ Improve 4.7 miles of riparian habitat and 11.1 miles of fisheries habitat by 2005.
Camas Slough	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48, II-51); Camas Slough was to increase from 180 AUMs to 231 AUMs (page D-9 Table D-1) (recent monitoring data indicates 267 AUMs are available). ◆ Maintain 23,518 acres of existing vegetative improvements (II-47, II-50); ◆ Improve 123,980 acres lands in poor ecological condition (II-47, II-50); ◆ Manage big game habitat in MUAs 12 and 13 to support increased populations of mule deer and antelope (II-48, II-50); ◆ Improve sage grouse habitat (II-48) and maintain present areas of sage grouse nesting habitat (II-51). ◆ Maintain current condition of riparian habitat.
Cedar Creek	<ul style="list-style-type: none"> ◆ Issue 26,466 AUMs forage for livestock in MUA-15 by the year 2005 (II-56). Twenty-year use in Cedar Creek was to go from a proposed reduction of 2,261 to 4,085 AUMs (D-10, Table D-1). ◆ Maintain 24,159 acres of existing vegetative improvements (II-56). ◆ Improve 36,207 acres of lands in poor ecological condition (II-56); Cedar Creek was noted as having 6,493 acres in poor condition. ◆ Manage big game habitat in MUA-15 to support 2,400 mule deer in winter (100% increase), 1,285 mule deer the rest of the year (29% increase), and 1,170 antelope (30% increase); and protect crucial winter big game habitat (II-56). Existing populations are 1,200 mule deer in winter, 995 rest of year; and 900 antelope (II-56). Bighorn objectives in the MUA only apply along the East Fork Jarbidge River Canyon and not in this allotment. ◆ Improve 4,900 acres of big game habitat by 2005 in MUA-15 (II-56).

Allotment Name	Jarbidge RMP Objectives
	<ul style="list-style-type: none"> ◆ Improve 4.7 miles of fisheries habitat and 9.6 miles of riparian habitat in MUA 15 by 2005 (II-56).
Coonskin	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48). ◆ Maintain 23,518 acres of existing vegetative improvements (II-47); ◆ Improve 123,980 acres of lands in poor ecological condition (II-47); ◆ Manage big game habitat in MUA 12 to support increased populations of mule deer (50%) and antelope (8%) (II-48); ◆ Improve sage grouse habitat (II-48);
Crawfish	<ul style="list-style-type: none"> ◆ Increase forage issued for livestock to 2,439 AUMs in the Crawfish Allotment by the year 2005 (D-10, Table D-1). ◆ Maintain existing 21,177 acres of vegetative improvements (II-44, 45). ◆ Improve 139,244 acres of lands in poor ecological condition (II-44); Crawfish was noted as having 454 acres in poor condition. ◆ Manage big game habitat to support increased populations of mule deer (17%), and winter and yearlong antelope (about 40% and 100% increases, respectively) (II-44).
Echo 4	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 from 37,097 to 70,113 AUMs in MUA 7 (II-32). ◆ Maintain 155,612 acres existing vegetative improvements (II-31). ◆ Improve 123,921 acres of lands in poor (early seral) ecological condition (II-31). ◆ Manage big game habitat to support 100 mule deer and 30 antelope. Existing populations are 50 mule deer and 15 antelope (II-31).
East Juniper Draw	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48). ◆ Maintain 23,518 acres of existing vegetative improvements (II-47); ◆ Improve 123,921 acres of lands in poor (early seral) ecological condition (II-31). ◆ Manage big game habitat to support 100 mule deer and 30 antelope. Existing populations are 50 mule deer and 15 antelope (II-31).
Flat Top	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 in MUA 6 from 12,136 to 47,772 AUMs (II-28); and from 6,238 to 7,021 AUMs in MUA 10 (II-40). ◆ Maintain existing vegetative improvements (75,107 in MUA 6 and 1,866 in MUA 10) (II-28, II-40). ◆ Improve lands in poor (early seral) ecological condition (75,208 acres in MUA 6 and 56,576 in MUA 10) (II-28, II-40); Flat Top was determined to have 28,174 acres in poor ecological condition. ◆ In MUA 6, manage big game habitat to support 40 mule (II-28). ◆ In MUA 10, manage big game habitat to support 2,160 winter mule deer and 260 mule deer the rest of the year, 191 antelope, and 208 bighorns and protect existing and potential bighorn habitat through special designation and management. Existing populations are 1320 winter mule deer, 200 mule deer rest of year (II-40). ◆ In MUA 10, improve sage grouse nesting through seeding and rehabilitation. ◆ Maintain current upland game nesting and cover habitat in MUAs 6, 7, and 10 (II-28, II-31, II-40). ◆ In MUA 10, improve 4.7 miles of riparian habitat and 11.1 miles of fisheries habitat by 2005.
Grassy Hills	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48). Grassy Hills is 1.6% of MUA 12; 20-year use was to increase to 1866 AUMs. This increased use would result from the availability of additional forage from water developments, brush control and seeding projects and improvement in native range condition (II-3). ◆ Maintain 23,518 acres of existing vegetative improvements (II-47). ◆ Improve 123,980 acres of lands in poor ecological condition (II-47). ◆ Manage big game habitat in MUA 12 to support increased populations of mule deer (50%) and antelope (8%) (II-48).

Allotment Name	Jarbridge RMP Objectives
Noh Field	<ul style="list-style-type: none"> ◆ Improve sage grouse habitat (II-48). ◆ Increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48); increase AUMs of forage issued for livestock in MUA 7 from 37,097 to 70,113 by the year 2005 (II-32). ◆ Maintain 155,612 acres of existing vegetative improvements in MUA 7 and 23,518 acres in MUA 12 (II-31, II-47). ◆ Improve 123,921 acres of lands in poor ecological condition in MUA 7 & 123,980 acres in MUA 12 (II-31, II-47). ◆ Manage big game habitat in MUA 12 to support 225 mule deer and 270 antelope. Existing populations were 150 mule deer and 250 antelope (II-48); manage big game habitat in MUA 7 to support 100 mule deer and 30 antelope. Existing populations were 50 mule deer and 15 antelope (II-31). ◆ Improve sage grouse habitat (II-48). ◆ Maintain existing upland game bird nesting and cover habitats in MUA 7 (II-31).
North Fork	<ul style="list-style-type: none"> ◆ Increase forage allocated to live-stock from 25,098 to 26,466 AUMs in MUA-15 by the year 2005 (II-56). North Fork Field was to increase to 590 AUMs by 2005 ◆ Maintain 24,159 acres of existing vegetative improvements (II-56). ◆ Improve 36,207 acres of lands in poor ecological condition (II-56). ◆ Mange big game habitat in MUA-15 to support 2,400 mule deer in winter, 1285 mule deer the rest of the year, and 1,170 antelope. Existing numbers were 1,200 mule deer in winter, 995 the rest of year; 900 antelope. Protect crucial winter big game habitat (II-56). ◆ Improve 4,900 acres of big game habitat by 2005 in MUA-15 (II-56). ◆ In MUA-15, improve 4.7 miles of fisheries habitat and 9.6 miles of riparian habitat by 2005 (II-56).
Pigtail Butte	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock in MUA 13 from 18,748 to 20,169 by the year 2005 (II-51) and in MUA 15 increase from 25,098 AUMs to 26,466 AUMs (II-56). Twenty-year use in Pigtail Butte was to increase from 3848 AUMs to 5966 AUMs (Table D-1, page D-10). ◆ Maintain existing vegetative improvements (II-50 II-56); Pigtail Butte is 22% of MUA 13 and 3% of MUA 15. ◆ Improve lands in poor (early seral) ecological condition (II-50, II-56); 16,701 acres were in poor condition in Pigtail Butte. ◆ In MUA 13, manage big game habitat to support 175 mule deer and 50 antelope. Existing populations are 125 mule deer and 25 antelope (II-50). ◆ In MUA 15, manage big game habitat to support 2,400 winter mule deer and 1,285 mule deer the rest of the year, and 1,170 antelope. Existing populations are 1,200 winter mule deer, 995 mule deer the rest of the year; and 900 antelope. Protect crucial winter big game habitat. (II-56). Bighorn objectives in the MUA only apply along the East Fork Jarbridge River Canyon and not in this allotment. ◆ Improve 4,900 acres of big game habitat in MUA 15 by 2005 (II-56). ◆ In MUA 13, maintain present areas of sage grouse nesting habitat (II-51). ◆ In MUA 13, maintain the current condition of riparian habitat and fisheries habitat (II-51). ◆ In MUA 15, improve 4.7 miles of fisheries habitat and 9.6 miles of riparian habitat by 2005 (II-56).
Three Creek #8	<ul style="list-style-type: none"> ◆ Manage big game habitat in MUA 12 to support increased populations of mule deer (50%) and antelope (8%) (II-48). ◆ In MUA 15, manage big game habitat to support 2,400 winter mule deer and 1,285 mule deer the rest of the year, and 1,170 antelope. Existing populations are 1,200 winter mule deer, 995 mule deer the rest of the year; and 900 antelope. Protect crucial winter big game habitat. (II-56). Bighorn objectives in the MUA only apply along the East Fork Jarbridge River Canyon and not in this allotment. ◆ Improve 4,900 acres of big game habitat by the year 2005 in MUA 15 (II-56). ◆ Improve 4.7 miles of fisheries habitat and 9.6 miles of riparian habitat by the year 2005 in MUA 15 (II-56). ◆ Improve sage grouse habitat in MUA 12 (II-48).

Allotment Name	Jarbridge RMP Objectives
Wintercamp	<ul style="list-style-type: none"> ◆ Increase AUMs of forage issued for livestock by 2005 in MUA 6 from 12,136 to 47,772 AUMs in MUA 6 (II-28); from 37,097 to 70,113 AUMs in MUA 7 (II-32); from 6,238 to 7,021 AUMs in MUA 10 (II-40); and in MUA 11 from 20,078 to 33,423 AUMs (II-44). ◆ Maintain acres existing vegetative improvements (75,107 in MUA 6; 155,612 in MUA 7; 1,866 in MUA 10; 21,177 in MUA 11) (II-28, II-31, II-40, II-44). ◆ Improve lands in poor (early seral) ecological condition (75,208 acres in MUA 6, 123,921 in MUA 7; 56,576 in MUA 10; 139,244 in MUA 11) (II-28, II-31, II-40, II-44). ◆ In MUA 6, manage big game habitat to support 40 mule deer (II-28). ◆ In MUA 7, manage big game habitat to support 100 mule deer and 30 antelope (II-31). ◆ In MUA 10, manage big game habitat to support 2,160 winter mule deer and 260 mule deer the rest of the year, 191 antelope, and 208 bighorns and protect existing and potential bighorn habitat through special designation and management. Existing populations are 1,320 winter mule deer, 200 mule deer rest of year (II-40). ◆ In MUA 11, improve big game habitat to support 350 mule deer and 70 antelope in winter and 200 the rest of the year. Existing population are 300 mule deer and 50 antelope in winter and 100 yearlong. Improve 2,500 acres of big game habitat by 2005 (II-44). ◆ In MUA 10, improve sage grouse nesting through seeding and rehabilitation. ◆ Maintain current upland game nesting and cover habitat in MUAs 6, 7, and 10 (II-28, II-31, II-40). ◆ In MUA 6, maintain existing riparian conditions (II-28). In MUA 7 maintain current condition of riparian and fish habitat (II-31). ◆ In MUA 10, improve 4.7 miles of riparian habitat and 11.1 miles of fisheries habitat by 2005. ◆ In MUA 11, improve 26.1 miles of riparian habitat and 21.6 miles of fisheries habitat by 2005. ◆ Protect the cultural values of the Dry Lakes/ Bruneau River Complex through special designation and management.

General Rangeland Management Objectives from the Jarbidge RMP

1. Increases in livestock grazing use would result from the availability of additional forage from water developments, brush control and seeding projects and improvement in native range condition (RMP II-3).
2. The proposed level of grazing use was based on a one point in time inventory, therefore, the actual level of use that is authorized will be based on additional data collected through monitoring and evaluation studies (I-3).

General Riparian and Aquatic Habitat Objectives

1. Riparian and wetlands habitat will have a high priority for protection and improvement in accordance with national policy (RMP II-87).
2. Maintain recommended in-stream flows (recommended by Idaho Department of Water Resources) for the maintenance and preservation of aquatic and riparian ecosystems. In all cases, allow no proposals that include dewatering of the streambed.
3. Design and establish grazing management practices to meet fisheries, riparian, and water quality needs. In those instances where management alone cannot meet objectives, provisions for fencing or other means of exclusion will be utilized. Allow no livestock related activities such as salting, feeding, construction of holding facilities, and stock driveways to occur within the riparian zone of a stream drainage system (II-88).
4. Avoid construction activities which remove or destroy riparian vegetation and instream fish cover. Monitor and implement periodic rest or nonuse when these streams systems do not show signs of adequate recovery (II-88).
5. In those areas where fish/riparian values are identified as high priority, all other management practices will be designed to accommodate those priority watersheds (II-88).

General Threatened, Endangered, and Sensitive Species Objectives

1. Priority for habitat management will be given to habitat for listed and candidate Threatened, Endangered, and Sensitive species (RMP II-87).

General Terrestrial Wildlife RMP Objectives

1. Pronghorn: Grazing systems designed with the concept of key plant species, preferred pronghorn forage species for forbs and shrubs will be included as key species. (RMP II-86).
2. Bighorn Sheep: Roads will not be built within one (1) mile of bighorn sheep habitat. Allow no adverse habitat alteration within one mile of bighorn sheep habitat. Maintain a separation of use between cattle and bighorns by not developing livestock water sources within 1 mile of bighorn habitat unless adverse impacts can be mitigated. Permit no adverse habitat alteration of potential bighorn sheep habitat (II-86).
3. Improve forage condition by establishing seedlings or plantings of bitterbrush, four-wing saltbush, or other palatable shrub species on crucial mule deer winter range that presently has less than 30% palatable shrub composition by weight of the shrub component (II-84).
4. Maintain the density of sagebrush canopy coverage at 20 – 30% within nesting habitats and at least 20% in wintering habitats.
5. No control of sagebrush would be considered in any area known to have supported important wintering populations of sage grouse in the past 10 years (II-84).
6. Seed mixtures for range improvement projects and fire rehabilitation projects will include a mixture of grasses, forbs, and shrubs that benefit sage grouse (II-84).
7. Allow no adverse habitat alteration within one mile of bighorn sheep habitat (II-83).
8. Manage all ecological sites on mule deer, pronghorn, elk, bighorn sheep and sage grouse habitat currently in fair or poor ecological condition for good ecological condition. Monitor utilization of shrubs and forbs on crucial big game winter ranges. (RMP II-83)
9. Existing fences will be modified where specific wildlife needs are not being met. All new fences will be built to allow for wildlife passage. (RMP II-83)
10. Design all new spring developments and modify selected existing spring developments to protect wetted areas. (RMP II-83)
11. Establish livestock grazing systems and practices that recognize the physiological requirements of forbs and shrubs. (RMP II-83)
12. Protect and enhance endangered, threatened and sensitive species habitats in order to maintain or enhance existing and potential populations within the planning area. Allow no adverse habitat alteration within ¼

mile of any burrowing owl nest, ¾ mile of any ferruginous hawk, golden eagle, or prairie falcon nest (II-83).

13. Management actions within floodplains and wetlands will include measures to preserve, protect, and if necessary, restore their natural functions. (RMP II-82)
14. Wildlife escape ramps will be installed on all troughs and tanks (RMP II-82).
15. Forage/cover requirements will be incorporated into allotment management plans and will be specific to areas of primary wildlife use. (II-82).
16. Existing fences will be modified where specific wildlife needs are not being met. All new fences will be built to allow for wildlife passage (II-80).

Threatened, Endangered and Sensitive Plants

1. Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting these species, including fencing, if necessary. Adjustments to livestock use levels, grazing seasons, season-of-use, or other management techniques will be used to protect plants. If a proposed action is predicted, through the environmental assessment, to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects (II-82).

Bruneau/Jarbridge River Area of Critical Environmental Concern

1. Protect and enhance 80,994 acres of California bighorn sheep habitat in the West Fork of the Bruneau River and the Jarbridge River system and 3,117 acres of the Arch Canyon area. (RMP II-67)
2. Protect, maintain or improve bighorn sheep habitat to a good ecological condition class. (RMP II-67)
3. Protect and maintain the cultural, geologic, scenic, and natural values present in the area. (RMP II-68)

MUA-16 Special Management Actions (Blackrock Pocket Allotment)

1. Although specific season-of-use problems have not been identified, livestock season of use will be adjusted, if necessary, to resolve any conflicts on mule deer, antelope, or bighorn sheep ranges. (RMP II-62)
2. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-43).
3. Should elk be reintroduced into the RA during the life of the plan, AUMs and habitat would be provided as outlined in a MOU developed between Nevada Division of Wildlife, Idaho Fish & Game, and the affected landowners. Elk were reintroduced in Nevada in the 1990's, the MOU lapsed, and the RMP was not amended for elk AUMs and habitat to accommodate the increasing elk herd. Nevada Department of Wildlife has set a target of 1,500 elk in the hunting unit which includes about 23,250 acres of BLM land in this MUA. Idaho Fish & Game has yet to establish an elk management plan for the elk herd in Idaho in this MUA.

MUA-15 Special Management Actions (Antelope Springs, Brackett Bench, Cedar Creek, Pigtail Butte, Three Creek #8, Crawfish Allotments)

1. Although specific season-of-use problems have not been identified, livestock season-of-use will be adjusted, necessary to resolve any conflicts on mule deer, antelope and bighorn sheep ranges. (RMP II-58).
2. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-58).
3. Should elk be reintroduced into the RA during the life of the this plan, AUMs and habitat would be provided as outlined in a MOU developed between Nevada Division of Wildlife, Idaho Fish & Game, and the affected landowners. Elk were reintroduced in Nevada in the 1990's, the MOU lapsed, and the RMP was not amended for elk AUMs and habitat to accommodate the increasing elk herd. Nevada Department of Wildlife has set a target of 1,000 elk in the hunting unit which includes about 21,830 acres of BLM land in this MUA. Idaho Fish & Game has yet to establish an elk management plan for the elk herd in Idaho in this MUA.

MUA-13 Special Management Actions (Antelope Springs, Brackett Bench, Cedar Creek, Pigtail Butte Allotments)

1. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-52).

MUA-12 Special Management Actions (Three Creek #8, Grassy-Hills, Camas Slough, Coonskin, East Juniper Draw Allotments)

1. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-49).

MUA-11 Special Management Actions (Seventy One Desert, Wintercamp, Crawfish)

1. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-46).

MUA-10 Special Management Actions (Bruneau Hill, Flat Top, Seventy One Desert, Wintercamp)

1. Although specific season-of-use problems have not been identified, livestock season-of-use will be adjusted, it necessary to resolve any conflicts on mule deer, antelope and bighorn sheep ranges. (RMP II-43).
2. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-43).

MUA-7 Special Management Actions (Noh Field, Echo 4)

1. Fences will be modified to allow for antelope and mule deer passage in areas where wildlife needs are not being met. (RMP II-33).

Table A.3 - Allotment and Pasture Data and Proposed Management Guidelines

Allotment Name: 71-Desert #1099

Management and Use Data	Number and Kind*	AUMs****	Grazing system	Season of Use***
	304 Cattle	3,652	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Indian Hot Spring Stiff Tree Draw Sheepshead Draw	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting WSA			1, 9, 10, 11, 12, 13, 15 (Continue to stock at 13.5 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
Lookout	Primarily crested wheatgrass vegetation communities Sage grouse nesting Mule deer winter range Riparian Redband trout spawning			2, 5, 6, 8, 10, 11, 13, 16

Allotment Name: Antelope Springs #1096

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	750 Cattle 34 Sheep	5,965 Cattle 81 Sheep	Northern pastures are rotated, remaining pastures used every year.	03/01 – 20/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
1(The Point), 3 (Salmon Falls), 5 (Salmon Falls 2), 4 (Cedar Crossing)	Sage grouse nesting			1, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Salmon Falls Creek Canyon.), 16
2 Secret Cabin	Secret Cabin not included in rest system			2, 11
6 (West of Ranch), 7 (South of Road),	Sage grouse nesting Mule deer winter range Pronghorn winter range			1, 9, 10, 11, 13, 16
6A (Riparian)	Sage grouse nesting Wetland habitat in this pasture is on private land			1, 9, 11, 16
8 (Monument Springs)	Sage grouse nesting Mule deer winter range Wet meadow Mule deer fawning Pasture not included in rest system			1, 9, 11, 16
10 (Beaver Meadows)	Sage grouse nesting Mule deer fawning Wet meadow Riparian (Bear Creek) Pasture not included in rest system			1, 5, 7, 8, 9, 11, 14, 16
9 (China Mountain)	Sage grouse nesting Wet meadow			1, 9, 11, 16

Allotment Name: Blackrock Pocket #1102

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	376 Cattle	1,890	Deferred	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Blackrock Pocket	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting			1, 9, 10, 11, 12, 13, 15 (No supplement feed such as salt or mineral in ACEC.)

Allotment Name: Brackett Bench #1008

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	199 Cattle	2,386	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
1 (North),	Primarily crested wheatgrass vegetation community Sage grouse nesting Mule deer winter range Riparian (Antelope Springs Creek) Salmon Falls Creek Canyon SRMA			2, 5, 7, 8, 9, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Salmon Falls Creek Canyon.), 16
2 (Whiskey Slough), 3 (Corral Creek), 6 (Browns Creek)	Primarily native vegetation communities Sage grouse nesting Mule deer/pronghorn winter range Riparian (Antelope Springs Creek, Whiskey Slough, Browns Creek, China Creek) Wet meadows			1, 5, 7, 8, 9, 10, 11, 13, 16
2A (Indian Cave), 5 (Meadow)	Primarily native vegetation communities Sage grouse nesting Mule deer/pronghorn winter range			1, 9, 10, 11, 13, 16
7 (China Creek)	Primarily native vegetation communities Sage grouse nesting Mule deer/pronghorn winter range Riparian Redband Wet meadows Hedgehog cactus sites			1, 5, 6, 8, 9, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from hedgehog cactus sites.), 16

Allotment Name: Bruneau Hill Allotment #1057

Management and Use Data	Number and Kind*	AUMs****	Grazing system	Season of Use***
	350 Cattle	4,200	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
#1-4	Primarily crested wheatgrass vegetation communities Bighorn sheep/ACEC Mule Deer winter range WSA Sage grouse nesting			2, 9, 10, 11, 12, 13, 15 (Continue to stock at 9.6 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
#5	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range WSA Sage grouse nesting Bruneau hot Springs Snail (fenced out)			1, 9, 10, 11, 12, 13, 15 (Continue to stock at 9.6 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
#6	Primarily native vegetation communities Snake River Birds of Prey Area			1, 11

Allotment Name: Camas Slough #1095

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	21 Cattle	253	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Camas Slough	Primarily native vegetation communities Sage grouse nesting			1, 9, 11, 16

Allotment Name: Cedar Creek #1131

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	368 Cattle 9 Sheep	4,421 22	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Highway, Burn Field	Primarily native vegetation communities Crested wheatgrass with >10 % sagebrush Sage grouse nesting Mule deer winter range Redband trout spawning Riparian Wet meadows			1, 3, 5, 6, 8, 9, 10, 11, 13, 16
Monument Springs	Primarily native vegetation communities Sage grouse nesting Mule deer winter range Redband trout spawning Riparian Wet meadows Aspen groves			1, 5, 6, 8, 9, 10, 11, 13, 14, 16
Roseworth Reservoir	Primarily native vegetation communities Crested wheatgrass with >10 % sagebrush Sage grouse nesting, Mule deer winter range Riparian Wet meadows Cultural Resources near Cedar Cr. and Cedar Cr. Res.			1, 3, 5, 6, 8, 9, 10, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Cedar Cr. or Cedar Cr. Reservoir to protect cultural resources.), 16

Allotment Name: Coonskin #1123

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	296 Cattle 797 Sheep	3,554 1,914	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Guerry Tank, Yellow Tank, Juniper, Lake, Reservoir, Coonskin	Primarily native vegetation communities Sage grouse nesting Cultural Sites near Saylor Creek			1, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16
West Reservoir,	Primarily native vegetation communities Four-wing			1, 11
Northwest	Primarily native vegetation communities Sage grouse nesting			1, 9, 11, 16
End of Line	Primarily native vegetation communities Sage grouse nesting			3, 9, 11, 16

Allotment Name: Crawfish #1118

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	54 cattle	650	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
South	Primarily native vegetation communities Crucial pronghorn winter range Sage grouse nesting			1, 9, 10, 11, 13, 16
North	Primarily native vegetation communities Sage grouse nesting			1, 9, 11, 16

Allotment Name: East Juniper Draw #1132

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	206 Cattle	2,474	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
South Straw Stack, East Juniper, Halfway, North Coonskin, South Coonskin	Primarily native vegetation communities Sage grouse nesting Cultural Resource near Saylor Creek			1, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16

Allotment Name: Echo 4 #296

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	311 Cattle	3,740	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Crows's Nest, Big Hill, Upper Notch	Primarily crested wheatgrass vegetation communities Sage grouse nesting			1, 9, 11, 16
Crow's Nest Butte, Lower Notch	Crested wheatgrass with >15 % sagebrush			3, 9, 11

Allotment Name: Flat Top Allotment #1059

Management and Use Data	Number and Kind*	AUMs****	Grazing system	Season of Use***
	480 Cattle	5,761	Adaptive	03/01 to 2/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
#3	Primarily crested wheatgrass vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting WSA			2, 10, 11, 12, 13, 15 (Continue to stock at 10.8 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC.), 16
#1, 2	Primarily crested wheatgrass vegetation communities Sage grouse nesting			2, 9, 11, 16
#4	Primarily native vegetation communities Sage grouse nesting			1, 9, 11, 16

Allotment Name: Grassy Hills #1029

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	71 Cattle	858	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Management Guidelines
1 and 2	Primarily native vegetation communities Sage grouse nesting			1, 9, 11, 16

Allotment Name: Noh Field #1140

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	89 Cattle	1,073	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
East	Primarily crested wheatgrass vegetation communities Sage grouse nesting Cultural Resources near Saylor Creek			2, 9, 11, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Saylor Cr. to protect cultural resources.), 16
West	Primarily crested wheatgrass vegetation communities			2, 11

Allotment Name: North Fork Field #1088

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	47 Cattle	570	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
North Fork Field	Primarily native vegetation communities Sage grouse nesting Riparian Redband trout Aspen stands Hedgehog cactus sites			1, 5, 6, 8, 9, 11, 14, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Hedgehog cactus sites.), 16

Allotment Name: Pigtail Butte #1125

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	282 Cattle 894 Sheep	3,386 2,146	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
Three Mile Crossing,	Crested wheatgrass with >15 % sagebrush Sage grouse nesting, Riparian			3, 5, 6, 8, 9, 11, 16
Northeast Roseworth Reservoir, Northwest Roseworth Reservoir	Primarily crested wheatgrass vegetation communities Sage grouse nesting Mule deer winter range Riparian Redband trout (House Creek, Cedar Creek Reservoir) Cultural Sites near Cedar Cr. and Cedar Cr. Res.			2, 5, 6, 8, 9, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from Cedar Cr. or Cedar Cr. Reservoir to protect cultural resources.) , 16
Pigtail Butte	Primarily crested wheatgrass vegetation communities			2, 11
East Clark Seeding, West Clark Seeding, Roseworth, Trailing	Crested wheatgrass with >10 % sagebrush Native vegetation communities			1, 3, 11, 16
South Pigtail Butte,	Sage grouse nesting			1, 9, 11, 16
Cedar Creek Reservoir (Proposed)	Primarily native vegetation communities Redband trout (House Creek, Roseworth Reservoir, Cedar Creek) Riparian			2, 5, 6, 8, 9, 11, 13

Allotment Name: Three Creek 8 #1070

Management and Use Data	Number and Kind*	AUMs**	Grazing system	Season of Use***
	66 Cattle	797	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
#1, 2, 3	Primarily native vegetation communities Antelope winter range Mule deer winter range Sage grouse nesting Cultural Resources along perennial streams			1, 10, 11, 13, 15 (Supplement feed such as salt or mineral must be at least .25 mile from perennial streams to protect cultural resources.) , 16
#4	Primarily native vegetation communities Riparian, Sage grouse nesting Redband trout spawning Mule deer winter range			1, 5, 6, 8, 10, 11, 13, 16

Allotment Name: Wintercamp Allotment #1064

Management and Use Data	Number and Kind*	AUMs****	Grazing system	Season of Use***
	43 Cattle	519	Adaptive	03/01 to 02/28
Pasture Name	Pasture Description or Management Characteristics			Proposed Management Guidelines
West	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting WSA Redband trout spawning Riparian Cultural resource near Dry Lakes Complex and East Fork of the Bruneau River			1, 6, 8, 9, 10, 11, 12, 13, 15 (Continue to stock at 23.4 ac/AUM until WSA IMP requirements are met. No supplement feed such as salt or mineral in ACEC. Supplement feed must be at least .25 mile from Dry Lakes Complex and E. Fk. Bruneau River Canyon to protect cultural resources.), 16
East	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting Redband trout spawning Riparian			1, 6, 8, 9, 10, 11, 12, 13, 16
WSA Field (Proposed)	Primarily native vegetation communities Bighorn sheep/ACEC Mule Deer winter range Sage grouse nesting WSA Redband trout spawning Riparian Cultural resources near East Fork of the Bruneau River			1, 6, 8, 9, 10, 11, 12, 13, 15 (Continue to stock at 23.4 ac/AUM until WSA IMP requirements are met. Supplement feed such as salt or mineral must be at least .25 mile from Dry Lakes Complex and E. Fk. Bruneau River Canyon to protect cultural resources.), 16

* The number of livestock would be allowed to vary with a corresponding change in season of use, consistent with the annual grazing management plan, provided that total permitted AUM's were not exceeded.

** This figure represents the maximum permitted use for the duration of the permit.

*** Livestock are not on the allotment for the entire time shown. Year-round season of use would provide management flexibility in the event of drought, fire, etc. Annual grazing authorizations would be based on a grazing management plan outlining pasture movements through all allotments on public lands.

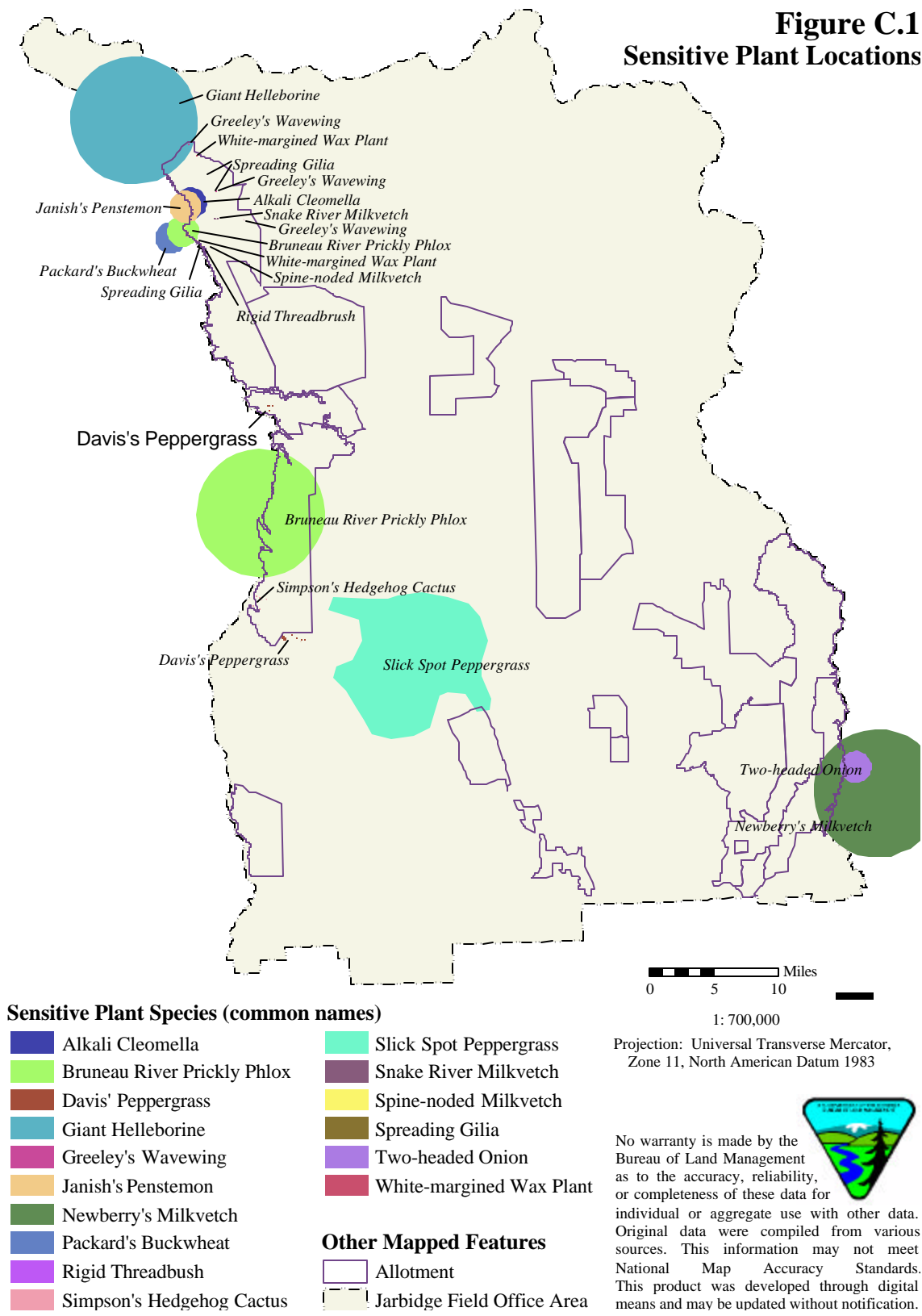
**** This figure represents the maximum allowable use for the duration of the permit. Requirements in the Interim Management Policy for wilderness study areas must be met prior to any grazing increases in pastures including WSA acreage.

APPENDIX B

Table B.1 - Acres of Vegetation Communities in Each of the 18 Allotments in the JFO Area

Allotment Name	Echo 4	Brackett Bench	Grassy Hills	Bruneau Hill	Flat Top	Winter Camp	Three Creek #8	North Fork Field	Camas Slough	Antelope Spring	71 Desert	Blackrock Pocket	Crawfish	Coonskin	Pigtail Butte	Cedar Creek	East Juniper Draw	Noh Field	Toal Acres (by veg_unit)
Allotment Number	296	1008	1029	1057	1059	1064	1070	1088	1095	1096	1099	1102	1118	1123	1125	1131	1132	1140	
Annual	327	0	0	14,696	569	183	0	0	0	0	4,773	0	0	1,434	94	0	549	0	22,625
B Big Sagebrush	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	0	0	104
Barren	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	10	0	0	24
Basin Wildrye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bluebunch	965	2,475	4,633	0	0	0	0	0	1,074	1,619	0	3,968	2,945	1,770	377	539	0	0	20,366
Bluegrass	0	0	0	0	0	362	190	0	0	100	0	284	0	0	0	0	0	1,414	2,350
Crested	10,911	1,734	0	15,243	16,333	4,714	31	0	0	3,476	10,835	0	0	1,608	6,146	2,716	8,059	3,306	85,112
Fourwing	0	0	0	0	0	0	0	0	0	0	1,319	0	0	0	0	0	0	0	1,319
Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idaho fescue	0	0	0	0	0	0	0	0	0	311	0	0	0	0	0	0	0	0	311
Intermediate WG	0	0	0	0	0	0	908	0	0	0	0	0	571	0	0	296	0	0	1,776
Low Sagebrush	0	6,822	0	0	0	0	130	1,703	29	6,922	0	1,308	0	0	50	5,250	0	0	22,215
Mt Big Sagebrush	0	4,435	0	0	0	0	0	626	0	9,459	0	0	0	0	0	11,601	0	0	26,121
Mt Brush	0	280	0	0	0	0	1,431	1,024	0	432	0	0	0	0	30	1,395	0	0	4,593
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-BLM	643	1,731	0	5,022	2,553	474	1,745	40	0	6,020	1,767	835	643	2,419	2,075	3,070	3,298	1,346	33,683
Rabbitbrush	0	0	0	0	0	0	0	0	0	0	0	265	2,025	9	122	0	0	0	2,421
Ricegrass\Stipa	0	0	0	0	0	0	3	0	0	0	44	0	0	0	0	0	0	0	47
Seeding\Native	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Semi-Wet Meadow	0	0	0	0	0	0	0	0	82	0	0	0	0	0	0	0	0	0	82
Thurbers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	282	0	0	282
WY Sage\Annual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WY Sage\Bluebunch	0	196	174	40	34	158	2,096	0	421	330	35	5,785	4,885	0	5,986	751	0	0	20,889
WY Sage\Bluegrass	0	2,837	100	9,468	16,472	6,709	0	0	0	7,866	0	702	0	4,730	9,328	0	18	1,033	59,264
WY Sage\Crested	4,420	1,122	0	0	1,459	0	0	0	0	11,221	0	0	0	4,139	5,188	1,956	1,729	376	31,610
WY Sage\Thurbers	0	0	0	0	0	73	0	0	0	4,270	22,709	0	0	27,363	1,259	574	10,378	0	66,626
Total Acres (by allotment)	17,266	21,632	4,908	44,469	37,420	12,672	6,547	3,394	1,606	52,025	41,482	13,147	11,069	43,472	30,655	28,546	24,033	7,476	401,820

Figure C.1
Sensitive Plant Locations



APPENDIX D

Table D.1-Stream Plant Communities and Functionality Rating by Stream Reach

Stream ¹	Inventory Reach #	Miles	Dominant Vegetation	Functional Ratings ²	Comments
71 Desert Allotment					
Clover Creek (1999, 2003)	12.3 – 15.7	3.4	Bluegrass/Rush/Willow	FAR	Sole water source for northern-most pasture.
Antelope Springs Allotment					
Bear Creek (1997, 2003)	5.4 – 5.8	0.4	Bluegrass/Hairgrass/Mannagrass/Aspen	FAR	Channel is actively eroding
Brackett Bench Allotment					
Corral Creek (1998, 2002, 2003)	.4 – 1.1	0.7	Rush/Bluegrass/Rose/Rabbitbrush/Sagebrush	PFC	Creek is fenced off at boundary
Browns Creek (1999, 2002, 2003)	1.4 – 3.1	1.7	Rush/Sagebrush	FAR	Perennial water not present in this reach
Browns Creek (1999, 2002, 2003)	3.1 – 4.2	1.1	Bluegrass/Rush/Rose/Willow/Aspen	FAR	Banks dominated by woody vegetation – heavy livestock use
China Creek (1999, 2002, 2003)	4.5 – 4.7	0.2	Willow/Rose/Bluegrass/Sagebrush	PFC	Fish below waterfall – considerable livestock use
China Creek (1999, 2002, 2003)	4.7 – 5.0	0.3	Willow/Bluegrass	FAR	Influenced by livestock
China Creek (1999, 2002, 2003)	5.0 – 5.2 (mainstem/spring)	0.4	Willow/Aspen	PFC	Influenced by livestock
Antelope Springs Creek (1998, 2002, 2003)	1.4 0 2.7	1.3	Baltic rush/Bluegrass/Yarrow	FAR	Most water from spring diverted into ditch/pipe.
Cedar Creek Allotment					
Cedar Creek (1997, 2002, 2003)	24.2 – 24.9	0.7	Willow/Bluegrass	PFC	Stream hydrology and vegetation heavily influenced by livestock

Stream ¹	Inventory Reach #	Miles	Dominant Vegetation	Functional Ratings ²	Comments
Cedar Creek (1997, 2002, 2003)	24.9 – 25.6	0.7	Rose/Willow/ Sagebrush/Bluegrass/ Douglas sedge	FAR	Stream function heavily influenced by livestock
Cedar Creek (1997, 2000, 2002)	25.6-26.1	0.5	Willow/Dogwood/Bluegrass	FAR	Gaps between woody veg well-used by livestock
Cedar Creek (1997, 2000)	26.1 – 26.7	0.6	Willow/Rose/Bluegrass	FAR	Opening along stream banks are well used
Cedar Creek (1997)	26.7 – 27.4	0.7	Willow/Dogwood	PFC	Minimal livestock use
Cedar Creek (1997)	27.4 – 27.9 28.2 – 28.4	0.7	Bluegrass/Hairgrass/Rush/Sedge/Willow	FAR	Minimal use by livestock
Cedar Creek (1996, 2003)	28.4 - 29.6	1.2	Bluegrass/Rush/Willow	FAR	Heavy livestock use from 28.6 upstream
Cedar Creek (1996, 2003)	29.6 – 30.7	1.1	Bluegrass/Rush/Sagebrush	FAR	Heavy livestock use along entire segment
Cedar Creek (1996, 2003)	30.7 – 31.1	0.4	Bluegrass/Hairgrass/Rush/Sedge/Willow	PFC	Riparian enclosure fence
Flat Top Allotment					
Clover Creek (1999)	3.4 – 7.8	4.4	Rush/Reed Canarygrass/Willow	PFC	Vegetation effectively stabilizing system
North Field Allotment					
Rocky Canyon Creek (1999, 2001, 2003)	.7 – 2.0	1.3	Sedge/Hairgrass/Willow	FAR	Steady improvement under on-going riding by permittee
Timber Canyon Creek (1999, 2002, 2003)	.7 – 2.3	1.6	Bluegrass/Willow	FAR	System impacted and degraded
Pigtail Butte Allotment					
Cedar Creek	15.2 – 17.3	2.1	Rush/Bluegrass/Dogwood/Currant	NF	This segment influenced by irrigation release and livestock use.
Cedar Creek (1998, 2002)	17.3 – 18.8	1.5	Sedge/Reed Canarygrass/Rush/Dogwood	FAR	Stream flows as a result from reservoir release
House Creek (1998)	0.0 – 0.3	.3	Bluegrass/Rush/Willow	NF	Increase in riparian species since last assessment

Stream ¹	Inventory Reach #	Miles	Dominant Vegetation	Functional Ratings ²	Comments
Three Creek #8 Allotment					
Three Creek (1998)	11.8 – 12.1	0.3	Bluegrass/Willow/Currant/Rose	NF	Channel braided, erosion and sedimentation
Three Creek (1998)	12.1 – 12.3	0.2	Bluegrass/Willow/Aspen	FAR	Severely down cut in areas
Three Creek (1998)	12.2 – 12.9	0.6	Sedge/Bluegrass//Willow/Aspen	PFC	No livestock trails or excessive bank erosion
Winter Camp Allotment					
Clover Creek (1999)	0.0 – 7.8	7.8	Rush/Sedge/Willow	PFC	
Clover Creek (1999, 2003)	7.8 – 9.3	1.5	Reed Canarygrass/Rush/Bluegrass	FAR	
Clover Creek (1999, 2003)	11.0 – 12.3	1.3	Bluegrass/Bentgrass/Willow	FAR	

¹ Year inventoried.

² PFC = Proper Functioning Condition, FAR=Function at Risk, NF=Non functional

APPENDIX E

Listed and Sensitive Aquatic Species Life Histories and Habitat Requirements

Bull trout (*Salvelinus confluentus*)

The historic range of bull trout was restricted to North America (Haas and McPhail 1991). Bull trout were historically found in many major river systems, but spawning and rearing are believed to be restricted to cold and relatively pristine headwater basins. Headwaters of most basins still support bull trout populations (Lee and others 1997). In Idaho, bull trout do not occur in the Snake River watershed above Shoshone Falls, except in the Little and Big Lost rivers. Presently, the largest contiguous areas supporting bull trout populations are associated with the mountains of north central Idaho and northwestern Montana (Lee and others 1997). The small, isolated populations in the Bruneau and Jarbidge rivers of Idaho and Nevada represents the southern limit of the species range (Lee and others 1997). On June 10, 1998, the FWS revised its "warranted but precluded" finding for bull trout, listing the Columbia River bull trout population segment as threatened under the ESA.

Bull trout have two distinct life forms, resident and migratory (fluvial). Resident populations spend their entire life in small headwater streams, whereas migratory populations rear in tributary streams for several years before migrating into larger river systems. Migratory bull trout live several years in larger rivers, growing to much larger sizes than resident forms, before returning to tributaries to spawn. Bull trout generally mature between 5 to 7 years and may spawn every year or in alternate years (Pratt 1985). In general, adult bull trout migrate from June to August and spawn from late August to early November. Their eggs incubate and fry emerge in April and May. Juveniles rear in the stream from May to October and out-migrate from June to August.

Spawning occurs in loosely compacted gravel and cobble substrate at runs or tails of pools. Bull trout redds are vulnerable to scouring during winter and early spring flooding and low winter flows or freezing substrate. After hatching juvenile fish rear in low-velocity water, substrate interstices, or close proximity to larger substrate and submerged woody debris (Shepard et al. 1984). Adult resident bull trout prefer similar areas, conceal themselves during the day, and move at night. Fluvial bull trout overwinter in pool and run habitats (Elle et al. 1994). Most fluvial bull trout remain in the same habitat type after entering the main river from tributaries (Elle et al. 1994). Juveniles are rarely found in streams having water temperatures above 15°C or excess sediment that reduces useable rearing habitat and macroinvertebrate production (Fraley and Shepard 1989).

Inland Columbia Basin redband trout (*Oncorhynchus mykiss*)

The historical distribution of all forms of redband trout included freshwaters west of the Rocky Mountains, extending from northern California to northern British Columbia, Canada (Behnke

1992). The Inland Columbia Basin redband is one of three forms of redband trout and is more widely distributed within the Columbia Basin than any other salmonid (Behnke 1992). Redband trout once occupied most accessible waters from the southern desert basins to the high mountain coniferous forests (Behnke 1992). Currently, Lee et al. (1997) estimates that redbands in the Columbia Basin occur in only 64 % of their historic range. The Inland Columbia Basin redband trout was petitioned for listing under ESA on April 3, 1995. A 90-day rejection notice was issued on September 20, 1995. However, this decision was appealed and the FWS sued on the 90-day decision.

Redband trout in the Columbia Basin have two distinct life histories, anadromous (steelhead) and non-anadromous, with the non-anadromous divided into those that evolved with steelhead and those that did not. Life histories for non-anadromous forms are variable and several have been described including adfluvial and fluvial migratory, non-migratory resident or stream-dwelling fish (Lee et al. 1997).

Redband trout are primarily spring spawners (March-June) although they may reproduce anytime of the year (Kunkel 1976). Redband trout spawn exclusively in flowing waters and typically migrate to spawning areas (Thurow 1990). Water temperature and stream flow likely effect migration timing. Following spawning, redband trout may remain in place until migrating to over-wintering areas in the fall (Thurow 1990). Migratory juveniles typically move downstream to their ancestral lake or river after one to three years in natal areas. Sexual maturity typically occurs at three to five years, except in very cold or hot climates (Mullan et al 1992). Growth is variable but likely dependent on genetic and environmental conditions.

Redband trout appear to have evolved over a broader range of environmental conditions than other salmonids and appear to have less specific habitat requirements (Scott and Crossman 1973; Lee et al. 1997). They persist in some heavily disturbed basins, suggesting that they are less strongly influenced by habitat disruption than other salmonids. Redbands are often found in warmer waters than other salmonids. Populations in deserts along the southern margin of the Columbia Basin inhabit turbid and alkaline waters that range from near freezing to over 25° C (Kunkel 1976). In warmer and dryer environments the loss of riparian cover has been associated with reduced numbers and production (Li and others 1994). Thurow (1988) found redband trout most abundant in pool habitats and in association with cover components, including undercut banks, large woody debris, and overhanging vegetation. Some have suggested that redband trout, like steelhead, may be associated with higher gradient channels, often in riffles or with substrates dominated by boulders, cobbles and pocket water (Kunkel 1976).

Bureau hot springsnail (*Pyrgulopsis bruneauensis*)

The Bruneau hot springsnail was federally listed as endangered on January 25, 1993. The springsnail is an endemic snail inhabiting a complex of hot springs and seeps along a five-mile reach of the Bruneau River and the lower third of Hot Creek. They have been extirpated from

Indian Bathtub and upper Hot Creek. Hershler (1990) conducted a taxonomic description of the snail.

Mature springsnails use “hard” surfaces such as rocks to deposit their eggs and their abundance varies seasonally depending on water temperature, food availability, and spring discharge. Mladenka (1992) found water temperature was important in the distribution of the snails. The snails live in thermal springs and seeps with temperatures ranging from 11° to 35° C, with reproduction occurring between 20° and 35° C, and growth and reproduction retarded at temperature below 24° (Mladenka 1992). Sexual maturity occurs in about two months and maximum size is reached in four months under suitable water temperatures (Mladenka 1992).

Columbia spotted frog (*Rana luteiventris*)

The Columbia spotted frog, a true frog in the family Ranidae, is found in four areas of the Great Basin. A large sub-population is distributed across the Jarbidge and Independence mountain ranges in northeastern Nevada and south central Idaho. Its extent is defined by the headwaters of the Owyhee River, Bruneau River, and Salmon Falls Creek drainages. Spotted frogs are associated with clear, slow-moving, or ponded surface waters with little shade at elevations between 5,600 and 8,700 feet (Reaser 2000).

Spotted frog breeding occurs in a four-week period from March to April. Females lay one egg mass per year, with successful egg production, viability, and metamorphosis based on habitat variables such as temperature, depth and pH of water, cover, and predators (fish and bull frogs) (Morris and Tanner 1969).

Three habitat components are necessary for spotted frogs: (1) oxygenated hibernacula protected from freezing, and near suitable breeding areas; (2) shallow, slack water for breeding that maintains a constant level at least until eggs develop (with a connection to deeper water that persists until tadpoles transform); and (3) foraging areas rich in insects with vegetative protection and some open areas for basking (Engle 2001). Spotted frogs require adequate riparian corridors to move between the hibernating, breeding, and foraging sites (Engle 2001). Engle (2001) never found frogs outside of riparian areas.

APPENDIX F

Special Status Terrestrial Wildlife Species: Habitat Needs and Local Distribution and Occurrence

Bald Eagle (T) -migratory; winter resident from November through April along the entire Snake River canyon in the Jarbidge Field office Area. Wintering eagles frequently roost in the C.J. Strike Wildlife Management Area near Bruneau in an area with cottonwoods. No communal roosts or nest sites are known in any of the project allotments. Forage for fish, waterfowl, small mammals, and carrion..

California Bighorn Sheep (S) - sagebrush shrub steppe habitat that includes bluebunch wheatgrass, Idaho fescue, and blue grass with mixture of shrubs including sagebrush in fairly steep canyons with a series of benches, cliffs and water sources. Majority of observations are from the Bruneau/Jarbidge River confluence and south.

Kit Fox (S) - ecologically adapted to the desert shrub biome. Obtain adequate moisture from their prey. Opportunistic hunter that consumes small mammals, ground nesting birds, reptiles and insects. Last observation in Snake River Canyon near Bliss Dam in 1993, and historically in the Bruneau area.

Pygmy Rabbit (S) - sagebrush obligate. Provides both food and cover. Suitable habitat is dense sagebrush growing on deep soils. Diet dominated by sagebrush (99%) during the winter. Sagebrush important food year long. Grasses and forbs as well as sagebrush are eaten in mid-late summer. During winter tunnels are made below the snow to sagebrush plants. Historically in Crows Nest Flat (adjacent to Echo 4 allotment and near House Creek) near the Cedar Creek and Pigtail Allotments.

Spotted Bat (S) may migrate, found in pinyon juniper etc. and rough arid terrain. Roost areas are usually crevices in cliffs. Nocturnal foraging on insects, primarily moths. Confirmed occurrences along Jarbidge River, Bruneau River, Salmon Falls Creek and many side drainages.

Townsend-s Big-eared Bat (S) - winter colonial roosts usually in local caves, mines or lava tubes. Habitat includes pinyon-juniper and sagebrush and is regarded as a habitat generalist. Foods are largely insects including nocturnal moths. Observed in Salmon Falls Creek Canyon in 1995 also Jarbidge Canyon.

Greater sage grouse (S) - may be resident or migratory, sagebrush obligate. Found primarily in sagebrush shrub steppe communities. Good sage grouse nesting and brood rearing habitat contains sagebrush cover (15-25%) and a variety of grasses and forbs with heights averaging 7 inches. Meadows are important during summer and fall because of insects and forbs. During winter, wind swept ridges; south facing slopes, or flats with sagebrush exposed above the snow. Prefer a mosaic of habitats found in the sagebrush shrub steppe.

Columbian sharp-tailed grouse (S) - adapted to sagebrush shrub steppe habitats. Nesting habitat apparently requires fairly tall herbaceous cover, primarily bunch grass. Summer and brood habitat usually contains some amount of shrub cover. Winter habitat contains mountain shrub communities or riparian zones with fruit bearing shrubs or aspens as critical components. Just recently reintroduced.

Mountain Quail (S) - dense brush patches around mountain meadows or riparian zones in good condition that are surrounded by sagebrush uplands. Migrate elevationally by foot from summer habitat down to winter habitat in valleys. Winter habitat is dense and diverse fruit bearing shrubs and trees usually associated with riparian zones. Eat a variety of foods including leaves, flowers and other green vegetation, bulbs, fruits, and insects. Historically where found in suitable habitat in area. Heard calling in Black Rock Pocket area of the Bruneau River in 1992 and 1993. Confirmed in Jarbidge River Canyon in 2001.

Prairie Falcon (S) - migratory. Sagebrush shrub steppe, grasslands and other arid habitats that are typically treeless with nearby cliffs suitable for nesting. Prey includes ground squirrels and small birds. Canyons provide suitable cliffs for nesting along the Bruneau and Jarbidge Rivers as well as Devil Creek, Cedar Creek, and Salmon Falls Creek.

Peregrine Falcon (S) - migratory. Suitable nest sites in deep canyons usually near water. Nests are small depressions on shelf, ledge, or pothole located on a tall cliff with any overhang that protects the nest from solar radiation and driving rain. Feed primarily on other birds such as shorebirds, pigeons, doves, other smaller birds and less frequently waterfowl. No nests have been confirmed.

Ferruginous Hawk - migratory. Sagebrush-shrub steppe, grasslands and other arid habitats. Nests on cliffs, isolated juniper or artificial platforms. Major prey is ground squirrels, rabbits, hares and birds. Found throughout area in suitable habitat.

Northern Goshawk (S) - migratory. Nest in large aspens near water. Also in conifer forests. Hunt in a variety of habitats for available prey. Prey species are ground squirrels, robins and flickers in aspen stands. Found during the nesting season in the southern portion of the field area in aspen stands near the headwaters of Cedar and Bear Creek. No nest sites documented probable due to the lack of large size stands of aspens or conifers.

Lewis Woodpecker (S) - migratory. Breeding habitat in riparian area having large cotton woods. Needs open forests with shrub understory for foraging and large trees for nesting. Forages for flying and ground insects as well as gleaning insects from trees. Several sightings; one north of Three Creek and one near Murphy Hot Springs. Other observations in the North Fork, Brackett Bench, Cedar Creek and Antelope Springs allotments.

White-faced Ibis (S) - migratory shorebird. Nest in colonies in marshes. Nests are cupped

platforms, near ground level, made of coarse emergent vegetation in bulrush, reed, or cattails. Diet includes a variety of prey species including insect larvae, worms, mollusks, crustaceans, fish, and frogs. Observed in the spring at Cedar Mesa, Heil, and Camas Slough Reservoirs.

Calliope Hummingbird (S) - migratory. Found primarily in riparian zones however also in an aspen, mountain shrub, and mountain meadows. Diet includes nectar, insects, and sap. Plants used for foraging are scarlet gilia, larkspur, currant, snowberry, Oregon grape, columbine, penstemon, and paintbrush.

Loggerhead Shrike (S) - migratory. Upland areas of tall sagebrush or junipers and open foraging areas. Nests are found in taller sagebrush (minimum of 3 ft.), western juniper, and black greasewood. Consume a variety of food primarily large insects but also lizards, rodents, and small birds. Seen in the Brown's Bench Area.

Brewer's Sparrow (S) - migratory. Sagebrush obligate. Nests are placed less than 12" above ground usually in sagebrush. Forage on invertebrates including spiders, beetles and caterpillars, and on seeds of grasses and forbs beginning in late summer. Bird widespread wherever sagebrush cover remains.

Sage Sparrow (S) - migratory. Sagebrush obligate. Found in sagebrush shrub steppe and arid brush land. Selects for dense sagebrush. Nests low in sagebrush bush. Forages on the ground as well as from foliage for insects. Found in area where expanses of sagebrush are still present.

Willow Flycatcher (S) - migratory. Found in dense willow thickets in riparian zones; scattered shrub thickets, and the edges of mountain meadows. Diet exclusively insects. Have been heard along Deer Creek.

Northern Leopard Frog (S) - Prefer marshes, ponds and other quiet water with considerable aquatic vegetation. Feeds on invertebrates. Historically, present in Salmon Falls Creek and the lower part of the Bruneau River.

Western Toad (S) - uses spring pools, ponds, lake shallows and slow moving portions of streams and may prefer mud bottoms in the breeding habitat. Diet composed of invertebrates mainly flying insects. Found in Tuana Gulch and Yahoo Creek.

Woodhouse Toad (S) - uses springs, pools, ponds, lakes, and slow moving portions of streams. Diet composed of invertebrates. Historically present in the lower portion of the Bruneau River Canyon.

Mojave black-collared lizard (S) - occupy arid, rocky canyons that are sparsely vegetated. Found near canyon rims, in sagebrush, winter fat, and shadscale communities. Diet is varied and includes flower, leaves and any animal smaller than themselves. Only documented in the Bruneau River Canyon southeast of Hot Creek.

Western Ground Snake (S) - occur in desert areas with sandy soil. Species dwell underground. Eat a variety of burrowing or burrow dwelling arthropods (centipedes, millipedes, spiders, and insects). Observations between C.J. Strike Reservoir and Swan Falls Dam. Also found near Bruneau Dunes State Park and east of Hot Creek in the uplands above the Bruneau River.

Yuma Myotis (W) - open areas with scattered trees. Roosts alone or in clusters in rock crevices, caves, or old buildings. Feeds on insects. Captured in Salmon Falls Creek Canyon in 1995. Also found in the Bruneau River Canyon.

Western pipistrelle (W) - open, arid areas with scattered trees. Roosts in rock crevices, caves, and old buildings. Feeds on insects. Documented in Salmon Falls Creek and Bruneau River Canyons.

Western small-footed myotis (W) - open, arid areas with scattered trees. Roosts in rock crevices, caves and old buildings. Feeds on insects. Mist netted in Salmon Falls Creek Canyon and Bruneau River Canyon.

Sage Thrasher (W) - migratory. Sagebrush obligate. Mainly in the sagebrush shrub steppe and extending into junipers mountain shrub communities. Nests 1-3 foot high in main stem of sagebrush plant. Gleans food from the ground including great numbers of grasshoppers, Mormon crickets and other insects. Also eats fruits and berries in the fall. Found in suitable habitat in area.

Short-eared owl (W) - possible migratory. Inhabits open grasslands, open sagebrush shrub steppe, marshlands. Nests on ground among clumps of taller grasses. Preys on rodents, other small mammals, birds, bats and large insects. Found in suitable habitat in area.

Brewer's blackbird (W) - possible migratory. Found in riparian habitats, aspen groves. Nests on ground or in trees or shrubs 20-30 ft above the ground. Consumes a diet of about 68% vegetative and 32% animal material gleaned mostly on the ground. Uncommon in area.

Grasshopper Sparrow (W) - migratory. Inhabits lower elevation grasslands, also in cultivated agricultural areas. Nests on the ground at the base of a clump of taller grass or other vegetation. Forage on a variety of invertebrates and seeds.

Western burrowing owl (W) - migratory. Inhabits in open sagebrush shrub steppe, and grassland communities including open cheatgrass stands. Nests in burrows in the ground and may use old coyote dens, badger dens, or natural small cavities in ledges. Eats a variety of prey including invertebrates, rodents and birds. Nests are very sparse in area.

Swainson's Hawk (W) - migratory. Found in open sagebrush - shrub steppe with scattered trees, in grasslands, and near riparian areas. Nests in isolated trees, in shrubs and trees along wetlands and other riparian areas. Diet consists of small mammals, birds, fishes, salamanders, frogs, snakes, and insects. Uncommon in area.

Wilson's phalarope (W) - migratory. Found in marshes, sloughs, wet meadows - shallow water bordered by low grasses and sedges. Nests in scrapes on the ground around damp meadows with marsh grasses, sedges or rushes. Diet of crane fly and mosquito larvae, predaceous diving beetles, aquatic bugs, and seeds of aquatic plants. Uncommon in area.

Green-tailed towhee (W) - migratory. Found in sagebrush shrub steppe and mountain shrub communities, also riparian zones. Eats a variety of grass and forb seeds and insects. Uncommon in area.

Red-naped sapsucker (W) - migratory. Found in a variety of habitats including aspen woodlands and willow and cottonwood riparian zones. Consume a variety of food including insects, sap from deciduous trees and shrubs, fruits and berries. Uncommon in Aspen stands.

Pinyon jay (W) - probable migratory. Inhabits pinyon - juniper woodlands. Nests in the open woodlands. Forages in trees and on the ground principally for seed especially pinyon nuts. Also eats fruits, berries, insects and eggs and nestlings of small birds. Rare in this area..

Virginia's Warbler (W) - migratory. Inhabits pinyon-juniper and mountain mahogany with sagebrush and other shrubs. Is insectivorous and gleans insects from the ground on foliage. Few observations in area and no nests detected.

Cordellian flycatcher (W) associated with streams in several habitats such as aspen and riparian woodlands. Favors canyons with riparian woody vegetation. Eat primarily insects, also berries and seeds.

Cassin's Finch (W) - migratory. Inhabits semiarid open conifer forest at higher elevation and a few are nesting aspen patches. Diet consists of berries, buds, and seeds of conifers. Seen in Brackett Bench, Antelope Springs and North Fork allotments.

Long-billed Curlew (W) - migratory. Inhabits short grassland areas such as crested wheatgrass seedings or cheatgrass areas. Nests in recently grazed areas and characterized by short (6-8"), low profile vegetation. Eats primarily insects in wetter areas. Found throughout area in suitable habitat.

Black Throated Sparrow (W) - migratory. Inhabits arid areas of scattered sagebrush and other shrubs. Nests located about 12" from the ground among branches of low shrub. Eats a variety of insects, especially soft-bodied ones. Rare in area.

APPENDIX G

Agencies and Individuals Consulted

Dynamac Corporation prepared this Permit Renewal Vegetation Allocation Environmental Assessment under contract to the Bureau of Land Management, Idaho State Office. The Environmental Assessment was prepared in consultation with, and with the full support of, an interdisciplinary team of specialists from the Bureau of Land Management, Jarbidge Field Office.

Robert Amidon

Lloyd L Knight, Dvm

Nathan Rowland
United States Air Force

Owyhee Cattlemen's Association

Stan T Boyd
Boise District Grazing Board

Owyhee County Board Of
Commissioners

Harold Brown

Terry Gibson, Tribal Chairman
Shoshone-Paiute Tribes

Katie Fite
Committee For The High Desert

Nevada Division Of Wildlife, Region
#2

US Fish & Wildlife Service, Snake
River Basin Office

Marty Marzinelli,
Sierra Club (Middle Snake Group)

Ted Hoffman
High Desert Coalition Inc

Michael E Stanford

Carl Brooks
Idaho Conservation League

Don Weilmunster

Ken Crane
Idaho Dept Of Agriculture

Craig Gehrke/Lahsha Johnston
The Wilderness Society

Area Supervisor, Idaho Dept Of
Lands

Mike Henslee – President
71 Cattlemen's Association

Sean Woodhead
ID Dept Of Environmental Quality

Gary Holmstead
Idaho Power Company

Area Supervisor, Idaho Dept Of Fish
& Game

Jim Desmond
Owyhee County NRC

Jon Marvel
Western Watersheds Project

Wes Whitworth
Bruneau Dunes State Park

Ray Mitchell
R&S Enterprise

Jeff Cook
ID Dept Of Parks & Recreation

Scott Tverdy

Kay Scheipan
Bureau Of Land Management
Mike Medberry, Idaho
Representative
American Lands Alliance

American Wildlands-N Rockies
Office

Clark Collins
Blue Ribbon Coalition

Lionel Boyer
Shoshone-Bannock Tribes

John Mccarthy, Administrator
Idaho Conservation League

Idaho Dept Of Health & Welfare
(DEQ)

Jerry Jayne
Idaho Environmental Council

Natural Resource Policy Bureau
Idaho Fish & Wildlife Foundation

Grant Simonds, Executive Director
Idaho Outfitters & Guides Assn

Liz Paul
Idaho Rivers United

Ron Mithcell
Idaho Sporting Congress

Land & Water Fund Of The Rockies

Idaho Wildlife Federation

Carol Warden, Field Support Office
National Audubon Society

Rich Day
NWF-N Rockies NRC

Bill Marlett
Oregon Natural Desert Association
Steve Jakubowics

David Meyers

Charley Rains
Audubon Society-Golden Eagle

Bureau Of Land Management
Vale District Office

Regional Supervisor, Sw Region
Idaho Department Of Fish & Game

Idaho Native Plant Society

Ed Robertson
Idaho Wildlife Federation

Oregon Natural Resources Council

Tim Lowry, Chairman
Owyhee Land Use Planning
Committee

John Barringer

John E Crawford

Eric Davis
Bruneau Cattle Company

Brian Goller

Russ Heughins

Pam Marcum

Marty Marzinelli

Herb Meyr

Randall Morris

Bill Platts

Michael Roach

Bert Brackett

Vic Conrad

Chuck Jones

Jennifer Sandmann

Times News

Lewis Oneida

Glen Shewmaker

Mike Etcheverry

ID Dept Of Environmental Quality

Kelly Adams

Carl H Nellis

Attendees of the Public Scoping Open House, December 17, 2003:

Sean Woodhead

ID Dept Of Environmental Quality

Bert Brackett

Vic Conrad

Chuck Jones

Jennifer Sandmann

Times News

Mike Etcheverry

ID Dept Of Environmental Quality

Kelly Adams

Carl H Nellis

Lewis Oneida

Glen Shewmaker

Ray Mitchell

R&S Enterprise

Scott Tverdy

List of Preparers:

Name	Responsibility	Education
Jerry R. Barker, Ph.D.	Task Leader, Range Management, Invasive weeds	Doctorate of Philosophy in Range Ecology, Utah State University, 1981. Master of Science in Range Ecology, Utah State University, 1978. Bachelor of Science in Botany, Brigham Young University, 1975.
Terry Costello	NEPA, Special designations, BLM liaison	Bachelor of Science in Forest Management, University of Minnesota, 1967. Master of Science in Forest Recreation, University of Minnesota, 1971.
Joan M. Gaidos, Ph.D.	Soil Resources	Doctorate of Philosophy in Crop and Soil Environmental Science (Nutrient Fate and Transport), Virginia Tech, 2001. Master of Science in Animal Science (Reproductive Physiology), University of Kentucky, 1991. Bachelor of Science in Animal Science (minor in Biology), Virginia Tech, 1988.
Cindy Hoschouer	Riparian and wetlands	Bachelor of Science in Land Resources and Horticulture, Montana State University, 1979.
Robert House	Fisheries	Bachelor of Science in Fisheries and Wildlife, University of Washington, 1970. Graduate work, Wild life/Ecology, Utah State University, 1971.
Matt Kniesel	Wildlife	Bachelor of Science in Biology, University of Illinois. Master of Science in Forestry and Natural Resource Administration, Colorado State University.
William Laycock	Range, Vegetation, Invasive weeds	Doctorate of Philosophy in Plant Ecology, Rutgers University, 1958. Master of Science in Range Management, University of Wyoming, 1953. Bachelor of Science in Range Management, University of Wyoming, 1952.
Brooke Levy	Technical editor	Bachelor of Science in Agriculture, with emphasis in Environmental Science, West Virginia University, 1994. Master of Science in Environmental Science and Policy, Johns Hopkins University, candidate.
Dale R. Lindeman	GIS/Data Acquisition	Master of Science in Geography, Oregon State University, 2003. Bachelor of Science in Wildlife Management, University of Wisconsin - Stevens Point, 1982.
Jim Melton	EA NEPA Lead and Dynamac Project Manager	Post Graduate Studies in Business law, Regional Planning, Environmental Law and Statistics. Bachelor of Science Degree from Texas A&M University in Agronomy/Soils Science, 1970. Master of Agriculture Degree from Texas A & M University in Resource Development, 1972
Susanne J. Miller	Cultural resources	Bachelor of Science in Biology and Chemistry, Dana College, NE. 1965. Master of Arts, Anthropology and Archaeology, Idaho State University. 1972.
William "Buck" West	Public participation	Bachelor of Science in Range and Forest Management, Colorado State University, 1977. Master of Science in Range Ecology, Colorado State University, 1982.

GLOSSARY

ADAPTIVE MANAGEMENT An iterative process, based on scientific paradigm that treats management actions as experiments subject to modification, rather than a fixed and final ruling. It uses management actions to develop and enhanced scientific understanding about whether and how the ecosystem responds to specific management actions.

COVER The area on the ground covered by the combined aerial parts of plants expressed as a percent of the total area.

CRITICAL HABITAT (1) Specific areas within the habitat a species occupies at the time it is listed under the Endangered Species Act that have physical or biological features (a) that are essential to the conservation of the species and (b) that may require special management considerations or protection, and (2) specific areas outside the habitat a species occupies at the time it is listed that the Secretary of the Interior determines are essential for the species conservation.

CULTURAL RESOURCES Remains of human activity, occupation, or endeavor, reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were important in past human events. Cultural resources consist of (1) physical remains, (2) areas where significant human events occurred, even though evidence of the events no longer remains, and (3) the environment immediately surrounding the actual resource.

DEPENDENT An animal species, which requires a certain vegetative community (or habitat) type during part of its life cycle.

DESIRED PLANT COMMUNITY The kind, amount, and proportion of vegetation which best meets land use objectives for a particular site, and which must be within the site's capability to produce through management or a combination of management and land treatment.

ECOSYSTEM An interacting system of organisms considered together with their environment.

ENDANGERED SPECIES Plant or animal species that are in danger of extinction throughout all or a significant part of their range.

ENDANGERED SPECIES ACT of 1973 (as amended) Federal law to ensure that no federal action will jeopardize federally listed or proposed threatened and endangered species of plants and animals.

ENVIRONMENTAL ASSESSMENT (EA) A systematic environmental analysis of a site-specific BLM activity used to determine whether the activity would have a significant effect on the quality of the environment and whether an environmental impact statement is required.

ENVIRONMENT The complex surroundings of an item or area of interest, such as air, water, natural resources, and their physical conditions (temperature, humidity).

FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA) Federal Land Policy and Management Act of 1976 (Public Law 94-570, 90 Stat. 2743, 43 USC 1701).

INVASIVE SPECIES Species that have been introduced into an environment in which they did not evolve and thus usually have no natural enemies to limit their reproduction and spread.

LONG-TERM ≥10 years.

MITIGATION MEASURES Means taken to avoid, compensate for, rectify, or reduce the potential adverse impacts of an action.

MONITORING The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

MOSAIC The intermingling of plant communities and their successional stages in such a manner as to give the impression of an interwoven design.

NOXIOUS WEED A plant that causes disease or has other adverse effects on man or his environment and therefore is detrimental to the agriculture and commerce of the United States and public health. Noxious weeds are designated and regulated by various State and Federal laws. In most cases, noxious weeds are also nonnative species.

RESOURCE MANAGEMENT PLAN A multiple-use plan that provides management direction for Federal resources managed by BLM. It is often supplemented by more detailed, site-specific management plans for a particular land use activity, such as livestock grazing.

RESTORATION A long-term landscape-based approach to changing the ecological health of the rangelands which requires implementation of a set of actions that promotes plant community diversity and structure to encourage communities to be more resilient to future disturbance and invasive species.

RIPARIAN The banks and adjacent areas of water bodies, watercourses, seeps, and springs. These waters provide soil moisture sufficiently in excess of the otherwise available locally to provide a moister habitat than that of contiguous flood plains and uplands.

SENSITIVE SPECIES A list of animal and plant species that were designated by the Idaho BLM. It is BLM policy (BLM Manual 6840.06) to give these species the same protection as federal candidate species.

SHORT-TERM <10 years

SHRUB A woody perennial plant differing from a perennial herb by its persistent and woody stem; and from a tree by its low stature and habit of branching from the base.

SPECIES COMPOSITION A term relating the relative abundance of one plant species to another using a common measurement; the proportion (percentage) of various species in relation to the total on a given area.

THREATENED SPECIES Plant or animal species that are not in danger of extinction but are likely to become so within the foreseeable future throughout all or a significant portion of their range.

VEGETATION COMMUNITY A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates the aspect or physiognomy of the area.

VISUAL RESOURCES The visible physical features on a landscape (e.g., land, water, vegetation, structures and other features).

WILDERNESS An area established by the Federal Government and administered either by the Forest Service, USDA or National Park Service, Fish & Wildlife Service, or Bureau of Land Management, in order to conserve its primeval character and influence for public enjoyment, under primitive conditions, in perpetuity.

WILDERNESS STUDY AREA (WSA) A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 or 602 of FLPMA.

WILDFIRE A fire occurring on wildland that is not meeting management objectives and thus requires a suppression response.

WILDLAND An area in which development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities. Structures, if any, are widely scattered.

WILDLAND FIRE Any fire occurring on the wildlands, regardless of ignition source, damages, or benefits.

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